

Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Cornwell Robert W. Esmond Tracy-Gene G. Durkin Michaele A. Cimbala Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcom Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger

Judith U. Kim Timothy J. Shea, Jr. Patrick E. Garrett Jeffrey T. Hebey Heidi L. Kraus Albert L. Ferro* Donald R. Banowit Peter A. Jackman Jeresa U. Medler Jeffrey S. Weaver Kendrick P. Patterson Vincent L. Capuano Eldora Ellison Floyd Thomas C. Fiala Brian J. Del Buono Virgil Lee Beaston Theodore A. Wood Elizabeth J. Haanes Joseph S. Ostroff Frank R. Cottingham Christine M. Lhuller Rae Lynn P. Guest George S. Bardmesser Daniel A. Klein* Jason D. Elsenberg Michael D. Specht Andrea J. Kamage Tracy L. Muller* Jon E. Wright LuAnne M. DeSantis Ann E. Summerfield Aric W. Ledford* Helene C. Carlson Timothy A. Doyle* Gaby L. Longsworth Lori A. Gordon*

Nicole D. Dretar Ted J. Ebersole Jyoti C. Iyer* Laura A. Vogel Michael J. Mancuso

Registered Patent Agents -Karen R. Markowicz Nancy J. Leith Matthew J. Dowd Aaron L. Schwartz Katrina Yujian Pei Quach Bryan L. Skelton Robert A. Schwartzman Teresa A. Colella Jeffrey S. Lundgren Victoria S. Rutherford Robert H. DeSelms Simon J. Elliott Julie A. Heider Mita Mukherjee Scott M. Woodhouse Michael G. Penn Christopher J. Walsh

<u>Of Counsel</u> Kenneth C. Bass III Evan R. Smith Marvin C. Guthrie

*Admitted only in Maryland *Admitted only in Virginia •Practice Limited to Federal Agencies

December 15, 2004

WRITER'S DIRECT NUMBER: (202) 772-8675
INTERNET ADDRESS:
JHELVEY@SKGF.COM

Art Unit 2634

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application\

Application No. 09/632,856; Filed: August 4, 2000

For: Wireless Local Area Network (WLAN) Using Universal Frequency
Translation Technology Including Multi-Phase Embodiments and
Circuit Implementations

Inventors:

Sorrells et al.

Our Ref:

1744.0630003

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Resubmission of Information Disclosure Statements;
- 2. Copy of Information Disclosure Statement with cited references (as required by USPTO rules at the time of filing) filed on July 25, 2002;
- 3. Copy of Supplemental Information Disclosure Statement with cited references (as required by USPTO rules at the time of filing) filed on June 9, 2003;
- 4. Copy of Second Supplemental Information Disclosure Statement with cited references (as required by USPTO rules at the time of filing) filed on January 23, 2004;
- 5. Copy of Third Supplemental Information Disclosure Statement with cited references (as required by USPTO rules at the time of filing) filed on August 19, 2004;

Sterne, Kessler, Goldstein & Fox PLLC. : 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skgf.com

Commissioner for Patents December 15, 2004 Page 2

- 6. Copy of Fourth Supplemental Information Disclosure Statement with cited references (as required by USPTO rules at the time of filing) filed on November 12, 2004;
- 7. A compact Disc labeled "Sterne1B" in PDF format;
- 8. A compact Disc labeled "Sterne2B" in PDF format;
- 9. A compact Disc labeled "Disc 3" in PDF format; and
- 10. Return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Jeffrey T. Helvey

Attorney for Applicants Registration No. 44,757

JTH/agj 344041 1.DOC



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sorrells et al.

Application No.: 09/632,856

Filed: August 4, 2000

For: Wireless Local Area Network (WLAN) Using Universal

Frequency Translation Technology

Including Multi-Phase Embodiments and Circuit

Implementations

Confirmation No.: 2377

Art Unit: 2634

Examiner: Kim, Kevin

Atty. Docket: 1744.0630003

Resubmission of Information Disclosure Statements

Attn: Mail Stop Issue Fee

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

During prosecution of the subject application, Applicants timely filed an Information Disclosure Statement and Supplemental Information Disclosure Statements on July 25, 2002, June 9, 2003, January 23, 2004, August 19, 2004 and November 12, 2004. However, at the time of Allowance, Applicants had not yet received back the Examiner-initialed PTO-1449 forms indicating that the references were considered. Applicants hereby resubmit the Information Disclosure Statement and Supplemental Information Disclosure Statements, as they were filed on July 25, 2002, June 9, 2003, January 23, 2004, August 19, 2004 and November 12, 2004, so that the Examiner can consider the references and return the initialed PTO-1449 forms. Copies of the references which were provided with the aforementioned filings (as required by

applicable PTO rules at the time of filing) are hereby also re-submitted for the convenience of the Examiner.

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449s, and indicate in the official file wrapper of this patent application that the documents listed have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Jeffrey T. Helvey

Attorney for Applicants Registration No. 44,757

Date: 12/18/04

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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In re application of:

Sorrells et al.

Appl. No. 09/632,856

Filed: August 4, 2000

For: Wireless Local Area Network (WLAN)

Using Universal Frequency Translation

Technology Including Multi-Phase

Embodiments and Circuit

Implementations

Art Unit: 2634

Examiner: Ghayour, M.

Atty. Docket: 1744.0630003

Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

In addition to providing hard copies of the documents as required by applicable rules (see box 6 below), Applicants herewith provide two Compact Discs labeled "Sterne1B" and "Sterne2B" having stored thereon searchable electronic copies (in PDF format) of the documents listed on the PTO-1449. More specifically, the "Sterne1B" CD contains electronic copies of documents AA1-AR1, AA2-AR2, AA3-AR3, AA4-AR4, AA5-AR5, AA6-AR6, AA7-AR7, AA8-AR8, AA9-AR9, AA10-AR10, AA11-AR11, AA12-AR12, AA13-AL13, AN13-AR13, AA14-AI14, AN14-AR14, AA15-AI15, AN15-AR15, AA16-AI16, AN16-AR16, AA17-AI17, AN17-AR17, AA18-AI18, AN18-AR18, AA19-AI19, AN19-AR19, AA20-AI20, AN20-AR20, AA21-AI21, AN21-AR21, AA22-AI22, AN22-AR22, AA23-AI23, AN23-AR23, AA24-AI24, AN24-AR24, AA25-AI25, AN25-AR25,

AA26-AI26, AN26-AR26, AA27-AI27, AN27-AR27, AA28-AI28, AN28-AR28, AA29-AI29, AN29-AR29, AA30-AI30, AN30-AR30, AA31-AI31, AN31-AR31, AA32-AI32, AN32-AR32, AA33-AI33, AN33-AR33, AA34-AI34, AN34-AR34, AA35-AI35, AN35-AR35, AA36-AI36, AN36-AR36, AA37-AI37, AN37-AR37, AA38-AI38, AN38-AR38, AA39-AI39 and AN39-AR39, and the "Sterne2B" CD contains electronic copies of documents AA40-AI40, AA41-AI41, AA42-AI42, AA43-AI43, AA44-AI44, AA45-AI45, AA46-AB46, AM10, AJ11-AM11, AJ12-AM12, AJ13-AL13, AP50-AR50 and AN51-AP51. Documents AC46-AI46, AA47-AI47, AA48-AI48, AA49-AD49, AM13, AJ14-AM14, AJ15-AM15, AJ16-AM16, AJ17-AM17, AJ18-AM18, AJ19, AK19, AQ51, AR51, AN52-AR52, AN53-AR53, AN54-AR54, AN55-AR55 and AN56 have not yet been scanned. The file names on the CDs correspond to the identifiers on the PTO-1449. It is noted that the CDs are being provided in addition to hard copies of the documents for the convenience of the Examiner.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AD1, AL1, AO1, AC2, AF2, AG2, AI2, AC5, AG5, AB6, AF7, AI7, AB8, AF8, AG9, AK9, AO9, AO11, AA12, AE14, AN14, AB15, AE15, AH15, AO15, AF16, AD18, AG18, AB20, AC20, AQ20, AA22, AH22, AI23, AC24, AF26, AC30, AH31, AC32, AA33, AR33, AH34, AP35 and AO48 were included with Petitions to Make Special pleadings in co-owned related U.S. Patent Nos. 6,061,551, 6,061,555, 6,049,706 and 6,091,940.

Documents AM4, AH6, AL7, AJ9, AM9, AC17, AA20, AG20, AG21, AA24, AD24, AG24, AI31, AA32, AG34, AD36 and AQ37 were cited in searches performed at Applicants' request by the European Patent Office's Searching Authority in the above-referenced co-owned related patents.

Documents AA6, AD6, AO6, AE7, AE8, AA11, AE11, AH11, AI12, AB13, AD13, AH13, AC14, AG14, AE16, AB17, AF19, AD20, AN21, AG23, AH27, AI27, AI28, AH29, AG30, AD37, AR40, AO49 and AQ49 were suggested or identified by potential licensees.

Documents AH5, AH17, AD21, AB34, AE34, AB36, AI36 and AI38 were cited by the Examiner in the above-referenced co-owned related patents.

Documents AR21, AN22-AR22, AN23-23, AN24-AR24, AN25-AR25, AN26-AR26, AN27-AR27, AN28-AR28, AN29-AR29, AN30-AR30, AN31-AR31, AN32-AR32 and AN33-AP33 are press releases issued by assignee ParkerVision, Inc.

Documents AP6-AR6 and AN7-AP7 are copies of Declarations (including Exhibits) made by Messrs. Bultman, Cook, Holtz, Looke, Moses, Parker, and Sorrells, filed in the above-referenced co-owned related patents.

Documents AJ1, AL9, AJ10, AA19, AC25, AB30 and AF32 were cited in search reports in the corresponding foreign applications of the above-referenced co-owned related patents.

Documents AK9, AC17, AD36 and AD40 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/21359, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AM10, AJ11, AK11 and AE40 were listed in a communication issued by the International Preliminary Examination Authority in PCT application serial number PCT/US00/01108, filed January 19, 2000, entitled "Frequency Translation and Embodiments Thereof Such as the Family Radio Service," directed to related subject matter.

Documents AI7, AJ9, AK9, AG20, AG21, AB30 and AI43 were listed in a written opinion issued by the International Preliminary Examination Authority in PCT application serial number PCT/US00/23923, filed October 18, 1999, entitled "Applications of Frequency Translation," directed to related subject matter.

Documents AA44, AL11, AM11 and AQ50 were listed in a communication issued by the International Searching Authority in PCT application serial number PCT/US00/09911, filed April 14, 2000, entitled "Method And System For Down-converting an Electromagnetic Signal, And Transforms For Same," directed to related subject matter.

Documents AB44 and AC44 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,342, filed April 16, 1999, entitled "Method and System for Down-Converting Electromagnetic Signals Including Resonant Structures for Enhanced Energy Transfer," directed to related subject matter.

Documents AD44-AI44 and AA45-AD45 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/261,129, filed March 3, 1999, entitled "Applications of Universal Frequency Translation," directed to related subject matter.

Documents AE45, AF45, AJ12 and AK12 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/27555, filed October 6, 2000, entitled "DC Offset, Re-radiation, and I/Q Solutions Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AG45, AH45, AL12 and AM12 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/34771, filed January 21, 2000, entitled "Phase Comparator Using Undersampling," directed to related subject matter.

Documents AI45, AJ13-AL13 and AB46 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/27281, filed October 4, 2000, entitled "Frequency Converter and Method," directed to related subject matter.

Document AA46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,580, filed April 16, 1999, entitled "Method and System for Frequency Up-Conversion with a Variety of Transmitted Configurations," directed to related subject matter.

Document AC46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/670,831, filed September 28, 2000, entitled "Universal Frequency Translation, Embodiments Thereof, and a Web Site and Web Pages Directed to Same," directed to related subject matter.

Document AD46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,095, filed April 16, 1999, entitled "Method and System for Down-Converting an Electromagnetic Signal Having Optimized Switch Structures," directed to related subject matter.

Documents AD35, AE46-AI46 and AA47 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,342, filed April 16, 1999, entitled "Method and System for Down-Converting Electromagnetic Signals Including Resonant Structures for Enhanced Energy Transfer," directed to related subject matter.

Documents AJ1, AK9-AM9, AG28, AB30, AA32, AN52 and AP55 were cited in an Examination Report in co-pending European Patent Application Serial No. 99954905.8, filed October 18, 1999, entitled "Integrated Frequency Translation and Selectivity with a Variety of Filter Embodiments," directed to related subject matter.

Documents AM13, AJ14, AK14 and AQ51 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,765, filed June 21, 2000, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter.

Documents AL14, AM14, AJ15 and AK15 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,761, filed June 20, 2000, entitled "Method and System for Frequency Up-conversion," directed to related subject matter.

Documents AL15, AM15, AJ16-AM16 and AJ17-AM17 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,764, filed June 21, 2000, entitled "Applications of Frequency Translation," directed to related subject matter.

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Documents AJ18-AL18, AB47, AC47 and AE47-AG47 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/489,675, filed January 24, 2000, entitled "Bar Code Scanner Using Universal Frequency Translation Technology for Up-Conversion and Down-Conversion," directed to related subject matter.

Documents AC24 and AD47 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/376,509, filed August 18, 1999, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter.

Documents AH47, AI47 and AA48-AE48 are co-owned patents which are directed to related subject matter.

Documents AI43, AH47 and AH48 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,283, filed April 16, 1999, entitled "Integrated Frequency Translation and Selectivity with a Variety of Filter Embodiments," directed to related subject matter.

Documents AA38 and AG48 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/476,091, filed January 3, 2000, entitled "Image-Reject Down-Converter and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter.

Documents AK19 and AF48 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US01/15111, filed October 5, 2001, entitled "Method and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter.

Documents AI48 and AA49 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/567,963, filed May 10, 2000, entitled "Frequency Synthesizer Using Universal Frequency Translation Technology," directed to related subject matter.

Document AB49 is a copy of co-pending U.S. Patent Application Serial No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-Conversion of a Baseband Signal," directed to related subject matter. In the copy provided, the claims are shown as amended on June 6, 2001.

Document AC49 is a copy of co-pending U.S. Patent Application Serial No. 09/632,855, filed August 14, 2000, entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments," directed to related subject matter. In the copy provided, the claims are shown as amended on June 12, 2001.

Document AD49 is a copy of co-pending U.S. Patent Application Serial No. 09/632,857, filed August 14, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter. In the copy provided, the claims are shown as amended on June 6, 2001.

It is noted that some of these documents could be classified in more than one of the above categories.

The other documents in the PTO-1449 do not fall within the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- 1. This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.
- □ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
 - □ a. I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.

 37 C.F.R. § 1.97(e)(1).
 - □ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
 - □ c. Attached is our check no. ____ in the amount of ____ in payment of the fee under 37 C.F.R. § 1.17(p).
- □ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. A separate Petition to the Group Director, requesting consideration of this Information Disclosure Statement, is concurrently submitted herewith, along with our Check No.

 ______ in the amount of \$ ______ in payment of the fee under 37 C.F.R. § 1.17(i).
 - □ a. I hereby state that each item of information contained in this Information

 Disclosure Statement was cited in a communication from a foreign

 patent office in a counterpart foreign application not more than three

months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

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- □ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ 4. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- - Document AJ1 (DE 42 37 692 C1) appears to be a receiver for a digital radio signal. The corresponding U.S. Patent No. 5,493,721 is enclosed as document AG28 on the attached PTO-1449.
 - Document AK1 (EP 0 035 166 A1) appears to describe a digitized receiver. A copy of the English language abstract of document AK1 is enclosed as document AQ8 on the attached PTO-1449.
 - Document AJ6 (EP 0 785 635 A1) appears to describe a method and apparatus for frequency diversity transmission using a plurality of uncorrelated carriers. A copy of the English language abstract of document AJ6 is enclosed as document AP8 on the attached PTO-1449.
 - Document AK7 (FR 2 743 231 A1) is the corresponding French application of document AJ6 (EP 0 785 635 A1), which is described above.

- Document AJ8 (JP 2-39632) appears to describe a transmitter for frequency diversity. A copy of the English language abstract of document AJ8 is enclosed as document AO8 on the attached PTO-1449.
- Document AK8 (JP 2-131629) appears to describe a transmitter-receiver for frequency diversity. A copy of the English language abstract of document AK8 is enclosed as document AN8 on the attached PTO-1449.
- Document AL8 (JP 2-276351) appears to describe an FSK demodulating circuit. A copy of the English language abstract of document AL8 is enclosed as document AR7 on the attached PTO-1449.
- Document AK11 (FR 2245130) appears to describe a converter. A partial English language translation of document AK11 is enclosed as document AP50 on the attached PTO-1449.
- Document AL11 (DE 3541031) appears to describe a method and device for demodulating high-frequency modulated signals. An English translation of document AL11 is enclosed as document AR50 on the attached PTO-1449.
- Document AM11 (EP 0 732 803) appears to describe a procedure and device for demodulation by sampling. An English translation of document AM11 is enclosed as document AN51 on the attached PTO-1449.
- Document AJ12 (DE 19735798) appears to describe a transceiver. An English translation of document AJ12 is enclosed as document AP51 on the attached PTO-1449.
- Document AM13 (JP 56-114451) appears to describe a system for diversity radio transmission. The corresponding U.S. Patent No. 4,363,132 is enclosed as document AF8 on the attached PTO-1449.
- Document AJ14 (JP 8-32556) appears to describe a data transmitter-receiver. A copy of the English language abstract of document AJ14 is enclosed as document AO52 on the attached PTO-1449.
- Document AK14 (JP 8-139524) appears to describe a frequency converting circuit and radio communication device. A copy of the English language abstract of document AK14 is enclosed as document AP52 on the attached PTO-1449.

- Document AL14 (JP 59-144249) appears to describe a pulse signal transmission system. A copy of the English language abstract of document AL14 is enclosed as document AQ52 on the attached PTO-1449.
- Document AM14 (JP 63-54002) appears to describe a microwave burst signal generator which incorporates a FET frequency multiplier. A copy of the English language abstract of document AM14 is enclosed as document AR52 on the attached PTO-1449.
- Document AJ15 (JP 6-237276) appears to describe a quadrature modulator. A copy of the English language abstract of document AJ15 is enclosed as document AN53 on the attached PTO-1449.
- Document AK15 (JP 8-23359) appears to describe a digital quadrature modulation device. A copy of the English language abstract of document AK15 is enclosed as document AO53 on the attached PTO-1449.
- Document AL15 (JP 47-2314) appears to describe a demodulator. An English language translation of document AL15 is enclosed as document AP53 on the attached PTO-1449.
- Document AM15 (JP 58-7903) appears to describe a switched capacitor modulator.

 A partial English language translation of document AM15 is enclosed as document AQ53 on the attached PTO-1449.
- Document AJ16 (JP 58-133004) appears to describe an amplitude detector. A copy of the English language abstract of document AJ16 is enclosed as document AR53 on the attached PTO-1449.
- Document AK16 (JP 60-58705) appears to describe a frequency converting circuit.

 A copy of the English language abstract of document AK16 is enclosed as document AN54 on the attached PTO-1449.
- Document AL16 (JP 4-123614) appears to describe a level converting circuit. A copy of the English language abstract of document AL16 is enclosed as document AO54 on the attached PTO-1449.
- Document AM16 (JP 4-127601) appears to describe a frequency conversion circuit.

 A copy of the English language abstract of document AM16 is enclosed as document AP54 on the attached PTO-1449.

- Document AJ17 (JP 5-175730) appears to describe a time division direct receiver.

 A copy of the English language abstract of document AJ17 is enclosed as document AQ54 on the attached PTO-1449.
- Document AK17 (JP 5-175734) appears to describe an FM demodulator. A copy of the English language abstract of document AK17 is enclosed as document AR54 on the attached PTO-1449.
- Document AL17 (JP 7-154344) appears to describe a receiver for receiving modulated carrier signals and an IQ mixer/demodulator using it's receiving constitution. A copy of the English language abstract of document AL17 is enclosed as document AN55 on the attached PTO-1449.
- Document AM17 (JP 7-307620) appears to describe a bottom detection circuit. A copy of the English language abstract of document AM17 is enclosed as document AO55 on the attached PTO-1449.
- Document AJ18 (JP 55-66057) appears to describe a bar-code detection circuit. A copy of the English language abstract of document AJ18 is enclosed as document AQ55 on the attached PTO-1449.
- Document AK18 (JP 63-65587) appears to describe a wireless light pen device. A copy of the English language abstract of document AK18 is enclosed as document AR55 on the attached PTO-1449.
- Document AL18 (JP 63-153691) appears to describe a data transfer for a semiconductor data carrier system. A copy of the English language abstract of document AL18 is enclosed as document AN56 on the attached PTO-1449.
- Document AQ50 (Fest *et al.*) appears to discuss analog-digital converters. An English translation of document AQ50 is enclosed as document AO51 on the attached PTO-1449.
- Document AQ51 (Miki *et al.*) appears to describe modulation systems. A partial English-language translation of document AQ51 is enclosed as document AR51 on the attached PTO-1449.

No. 09/525,615, filed March 14, 2000, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

39,987

Michael Q. Lee

Attorney for Applicants Registration No. 35,239

Date: 7-25-02

1100 New York Avenue, N.W. Suite 600 Washington, D.C. 20005-3934 (202) 371-2600

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Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K. S. Cornwell Robert W. Esmond Iracy-Gene G. Durkin Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcorn Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger Judith U. Kim Timothy J. Shea, Jr. Patrick E. Garrett
Jeffery T. Helvey*
Heidi L. Kraus
Crystal D. Sayles
Edward W. Yee
Albert L. Ferro*
Donald R. Banowit
Peter A. Jackman
Molly A. McCall
Teresa U. Medler
Jeffrey S. Weaver
Kendrick P. Patterson
Vincent L. Capuan
Albert J. Fasulo II*
Eldora Ellison Floyd
W. Russell Swindell
Ihomas C. Fiala
Brian J. Del Buono*
Virgil Lee Beaston*
Reginald D. Lucas*

Kimberly N. Reddick Theodore A. Wood Elizabeth J. Haanes Bruce E. Chalker Joseph S. Ostroff Frank R. Cottingham* Christine M. Lhulier Rae Lynn Prengaman* Jane Shershenovich* Lawrence J. Carroll* George S. Bardmesser

Senior Counsel Samuel L. Fox Kenneth C. Bass III

Registered Patent Agents Karen R. Markowicz Andrea J. Kamage Nancy J. Leith Joseph M. Conrad III Ann E. Summerfield Helene C. Carlson Gaby L. Longsworth Matthew J. Dowd Aaron L. Schwartz Angelique G. Uy Boris A. Matvenko Mary B. Tung Katrina Y. Pei Bryan L. Skelton Jason D. Eisenberg

*Admitted only in Maryland *Admitted only in Virginia *Admitted only in Texas

July 25, 2002

WRITER'S DIRECT NUMBER: (202) 371-2674 INTERNET ADDRESS: MLEE@SKGF.COM

FILE COPY

Commissioner for Patents Washington, D.C. 20231

Art Unit: 2634

Re:

U.S. Utility Patent Application

Appl. No. 09/632,856; Filed: August 4, 2000

For

Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and

Circuit Implementations

Inventors:

Sorrells et al.

Our Ref:

1744.0630003/MQL/JTH

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Information Disclosure Statement;
- 2. A list of the cited documents on Forms PTO-1449 (56 pages);
- 3. A copy of the twelve (12) documents cited on Forms PTO-1449;
- 4. A compact Disc labeled "Sterne1B" in PDF format;
- 5. A compact Disc labeled "Sterne2B" in PDF format; and
- 6. Return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are

Sterne, Kessler, Goldstein & Fox PLLLC. : 1100 New York Avenue, NW : Washington, DC 20005 : 202.371.2600 f 202.371.2540 : www.skgf.com

Commissioner for Patents July 25, 2002 Page 2

necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

anott 39,987

Michael O. Lee

Attorney for Applicants Registration No. 35,239

JTH/slw Enclosures

SKGF_DC1:38454.1

Due Date: N/A

Art Unit: 2634

> Examiner: To be Assigned

Docket: 1744.0630003

Atty: MQL/JTH

Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology For:

Including Multi-Phase Embodiments and Circuit Implementations

n receipt stamp is placed hereon, the USPTO acknowledges receipt of the following documents:

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Sorrells et al.

09/632,856

August 4, 2000

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A compact Disc labeled "Sterne1B" in PDF format; 5.

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Sterne, Kessler, Goldstein & Fox P.L.L.C. 1100 New York Avenue, N.W. Suite 600 Washington, DC 20005-3934 ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856

APPLICANT Sorrells et al.

FILING DATE GROUP

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EXAMINER INITIAL		DOCUMENT NUMBER		DATE		NAME		CLASS	SUB- CLASS	FILING DATE
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ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS** FXAMINER **CLASS** SUB-**FILING DATE** DATE NAME **DOCUMENT** INITIAL **CLASS** NUMBER 332 22 King et al. AA3 01/1964 3,118,117 325 40 McNair AB3 3,226,643 12/1965 325 145 Shepherd AC3 06/1966 3,258,694 325 163 AD3 3,383,598 05/1968 Sanders 325 30 AE3 05/1968 Miyagi 3,384,822 66 178 AF3 3,454,718 07/1969 Perreault 340 347 Pierret AG3 3,523,291 08/1970 332 9 AH3 3,548,342 12/1970 Maxey 325 320 Perreault 01/1971 AI3 3,555,428 **FOREIGN PATENT DOCUMENTS EXAMINER** TRANSLATION DOCUMENT NUMBER DATE COUNTRY **CLASS** SUB-INITIAL **CLASS** 7/01 N/A EP H04N AJ3 EP 0 423 718 A2 04/1991 N/A 7/01 H04N EP 0 423 718 A3 08/1992 EP AK3 N/A 3/00 AL3 EP 0 486 095 A1 05/1992 EP H₀3D FP H03D 3/00 N/A 02/1997 **АМЗ** EP 0 486 095 B1 OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Austin, J. et al., "Doppler Correction of the Telecommunication Payload Oscillators in the UK T-SAT," 18th European Microwave Conference, Microwave Exhibitions and Publishers Ltd., pp. 851-857 (September 12 - 15, AN 3 1988). Auston, D.H., "Picosecond optoelectronic switching and gating in silicon," Applied Physics Letters, American AO 3 Institute of Physics, Vol. 26, No. 3, pp. 101-103 (February 1, 1975). Baher, H., "Transfer Functions for Switched-Capacitor and Wave Digital Filters," IEEE Transactions on Circuits AP 3 and Systems, IEEE Circuits and Systems Society, Vol. CAS-33, No. 11, pp. 1138-1142 (November 1986). Baines, R., "The DSP Bottleneck," IEEE Communications Magazine, IEEE Communications Society, pp. 46-54 AQ <u>3</u> (May 1995). Banjo, O.P. and Vilar, E., "Binary Error Probabilities on Earth-Space Links Subject to Scintillation Fading," AR 3 Electronics Letters, IEE, Vol. 21, No. 7, pp. 296-297 (March 28, 1985). DATE CONSIDERED **EXAMINER EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT DATE NAME CLASS SUB-FILING DATE NUMBER **CLASS** AA5 3,735,048 05/1973 Tomsa et al. 179 15 BM AB5 3,806,811 04/1974 Thompson 325 146 AC5 3,868,601 02/1975 MacAfee 332 45 AD5 3,949,300 04/1976 Sadler 31 325 AE5 3,967,202 06/1976 Batz 325 31 AF5 3,980,945 09/1976 Bickford 30 325 AG5 3,987,280 10/1976 Bauer 235 150.53 AH5 3,991,277 11/1976 Hirata 179 15 FD AI5 4,003,002 01/1977 Snijders et al. 332 10 FOREIGN PATENT DOCUMENTS **EXAMINER** DOCUMENT NUMBER INITIAL DATE COUNTRY CLASS SUB-TRANSLATION **CLASS** AJ5 EP 0 632 288 A2 01/1995 G01S EP 13/75 N/A AK5 EP 0 632 288 A3 07/1996 FP G01S 13/75 N/A AL5 EP 0 696 854 A1 02/1996 EP H04B 1/26 N/A AM5 EP 0 782 275 A2 07/1997 EP H04B 7/02 N/A OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Blakey, J.R. et al., "Measurement of Atmospheric Millimetre-Wave Phase Scintillations in an Absorption AN <u>5</u> Region," Electronics Letters, IEE, Vol. 21, No. 11, pp. 486-487 (May 23, 1985). Burgueño, A. et al., "Influence of rain gauge integration time on the rain rate statistics used in microwave AO communications," annales des tèlècommunications, International Union of Radio Science, pp. 522-527 <u>5</u> (September/October 1988). Burgueño, A. et al., "Long-Term Joint Statistical Analysis of Duration and Intensity of Rainfall Rate with ΑP <u>5</u> Application to Microwave Communications," Fifth International Conference on Antennas and Propagation (ICAP 87) Part 2: Propagation, IEE, pp. 198-201 (March 30 - April 2, 1987). Burgueño, A. et al., "Long Term Statistics of Precipitation Rate Return Periods in the Context of Microwave Communications," Sixth International Conference on Antennas and Propagation (ICAP 89) Part 2: Propagation, AQ <u>5</u> IEE, pp. 297-301 (April 4-7, 1989). Burgueño, A. et al., "Spectral Analysis of 49 Years of Rainfall Rate and Relation to Fade Dynamics," IEEE AR <u>5</u> Transactions on Communications, IEEE Communications Society, Vol. 38, No. 9, pp. 1359-1366 (September 1990). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

APPLICATION NO. ATTY. DOCKET NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS** EXAMINER INITIAL **DOCUMENT** DATE CLASS SUB-FILING DATE NAME NUMBER **CLASS** AA6 4,013,966 03/1977 325 363 Campbell AB6 4,019,140 04/1977 65 Swerdlow 322 AC6 4,035,732 07/1977 Lohrmann 325 446 AD6 4,047,121 76 09/1977 Campbell 331 AE6 Young 4,066,841 01/1978 178 66 R AF6 4,066,919 01/1978 307 Huntington 353 AG6 4,081,748 03/1978 Batz 325 56 4,130,765 AH₆ 12/1978 Arakelian et al. 307 220 R AI6 4,130,806 12/1978 325 487 Van Gerwen et al. **FOREIGN PATENT DOCUMENTS EXAMINER DOCUMENT NUMBER** INITIAL DATE COUNTRY CLASS SUB-TRANSLATION **CLASS** AJ6 EP 0 785 635 A1 07/1997 EP H04B 1/713 No AK6 EP 0 795 978 A2 09/1997 EP H04L N/A 5/06 AL6 EP 0 837 565 A1 04/1998 EP H04B 1/69 N/A нозм AM6 FP 0 862 274 A1 09/1998 FP 1/06 N/A OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Catalan, C. and Vilar, E., "Approach for satellite slant path remote sensing," Electronics Letters, IEE, Vol. 34, AN <u>6</u> No. 12, pp. 1238-1240 (June 11, 1998). Chan, P. et al., "A Highly Linear 1-GHz CMOS Downconversion Mixer," European Solid State Circuits ΑO <u>6</u> Conference, IEEE Communication Society, pp. 210-213 (September 22-24, 1993). Copy of Declaration of Michael J. Bultman filed in patent application Ser. No. 09/176,022, which is directed to AP 6 related subject matter, 2 pages. Copy of Declaration of Robert W. Cook filed in patent application Ser. No. 09/176,022, which is directed to AQ <u>6</u> related subject matter, 2 pages. Copy of Declaration of Alex Holtz filed in patent application Ser. No. 09/176,022, which is directed to related AR <u>6</u> subject matter, 3 pages. **EXAMINER DATE CONSIDERED EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in

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ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT DATE CLASS SUB-NAME FILING DATE NUMBER **CLASS** AA7 4,142,155 02/1979 47 Adachi 325 AB7 332 17 4,170,764 10/1979 Salz et al. AC7 05/1980 4,204,171 Sutphin, Jr. 328 167 AD7 4,210,872 07/1980 330 9 Gregorian AE7 01/1981 4,245,355 Pascoe et al. 455 326 AF7 4,253,066 02/1981 Fisher et al. 329 50 AG7 4,253,069 02/1981 Nossek 330 107 AH7 4,308,614 12/1981 Fisher et al. 370 119 AI7 4,320,361 03/1982 Kikkert 332 16 R **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY **CLASS** SUB-**TRANSLATION** CLASS AJ7 EP 0 874 499 A2 10/1998 EP H04L 25/06 N/A AK7 FR 2 743 231 A1 07/1997 FR **H04B** 7/12 No AL7 GB 2 161 344 A 01/1986 GB H04B 7/12 N/A AM7 GB 2 215 945 A 09/1989 GB H04L 27/00 N/A OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Copy of Declaration of Richard C. Looke filed in patent application Ser. No. 09/176,022, which is directed to ΑN 7 related subject matter, 2 pages. Copy of Declaration of Charley D. Moses, Jr. filed in patent application Ser. No. 09/176,022, which is directed to AO <u>7</u> related subject matter, 2 pages. Copy of Declaration of Jeffrey L. Parker and David F. Sorrells, with attachment Exhibit 1, filed in patent AP 7 application Ser. No. 09/176,022, which is directed to related subject matter, 130 pages. Dewey, R.J. and Collier, C.J., "Multi-Mode Radio Receiver," *Electronics Division Colloquium on Digitally Implemented Radios*, IEE, pp. 3/1-3/5 (October 18, 1985). AQ <u>7</u> DIALOG File 347 (JAPIO) English Language Patent Abstract for JP 2-276351, 1 page (November 13, 1990 -AR <u>7</u> Date of publication of application). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Page 8 of 56 ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT DATE NAME **CLASS** SUB-**FILING DATE** NUMBER CLASS AA8 4,320,536 03/1982 Dietrich 455 325 AB8 4,346,477 08/1982 Gordy 455 257 AC8 4,355,401 10/1982 Ikoma et al. 375 5 AD8 4,356,558 10/1982 Owen et al. 364 724 AE8 Gonda 4,360,867 11/1982 363 158 AF8 4,363,132 12/1982 Collin 455 52 AG8 4,365,217 12/1982 Berger et al. 333 165 AH8 4,370,572 01/1983 Cosand et al. 307 353 AI8 4,389,579 06/1983 Stein 307 353 **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY **CLASS** SUB-TRANSLATION **CLASS** AJ8 JP 2-39632 JP 02/1990 **H04B** 7/12 No AK8 JP 2-131629 05/1990 JP H04B 7/12 No AL8 JP 2-276351 11/1990 JΡ H04L 27/22 No 8MA WO 80/01633 A1 08/1980 PCT H04J 1/08 N/A OTHER (Including Author, Title, Date, Pertinent Pages, etc.) DIALOG File 347 (JAPIO) English Language Patent Abstract for JP 2-131629, 1 page (May 21, 1990 - Date of AN <u>8</u> publication of application). DIALOG File 347 (JAPIO) English Language Patent Abstract for JP 2-39632, 1 page (February 8, 1990 - Date of AO <u>8</u> publication of application). DIALOG File 348 (European Patents) English Language Patent Abstract for EP 0 785 635 A1, 3 pages ΑP <u>8</u> (December 26, 1996 - Date of publication of application). DIALOG File 348 (European Patents) English Language Patent Abstract for EP 35166 A1, 2 pages (February AQ 8 18, 1981 - Date of publication of application).

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Page 11 of 56

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	AC20	5,1	50,124	09/1	992	Моо	re et al.		342	68	
	AD20	5,1	51,661	09/1	992	Cald	well <i>et al</i> .		328	14	
	AE20	5,1	59,710	10/1	992	Cus	din		455	304	
	AF20	5,1	70,414	12/1	992	Silvi	an		375	59	
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	АР	<u>20</u>	Ohara, H. et a Publishing Co	al., "Fii mpan	rst monolithi y, Vol. 27, N	c PCM o. 8, p	filter cuts cost of teleco p. 130-135 (April 12, 19	omm s 79).	ystems," <i>Elec</i>	tronic Design	n, Hayden
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Page 27 of 56 APPLICATION NO. ATTY. DOCKET NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT DATE NAME CLASS SUB-FILING DATE NUMBER **CLASS** AA27 5,454,007 09/1995 Dutta 375 322 AB27 5,454,009 09/1995 Fruit et al. 372 202 AC27 5,463,356 10/1995 Palmer 332 117 5,463,357 AD27 10/1995 Hobden 332 151 AE27 5,465,071 11/1995 Kobayashi et al. 329 315 AF27 5,465,410 11/1995 Hiben et al. 455 266 AG27 5,465,415 11/1995 Bien 455 326 AH27 5,471,162 11/1995 McEwan 327 92 AI27 5,479,120 12/1995 McEwan 327 91 **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL **DOCUMENT NUMBER** DATE COUNTRY **CLASS** SUB-TRANSLATION CLASS AJ27 Yes No AK27 Yes No AL27 Yes No **AM27** Yes No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Press Release, "Parkervision, Inc. Announces First Significant Sale of Its Cameraman® Three-Chip System," AN <u>27</u> Parkervision Marketing and Manufacturing Headquarters, 2 pages (April 12, 1996). Press Release, "Parkervision, Inc. Introduces New Product Line For Studio Production Market," Parkervision AO <u>27</u> Marketing and Manufacturing Headquarters, 2 Pages (April 15, 1996). Press Release, "Parkervision, Inc. Announces Private Placement of 800,000 Shares," Parkervision Marketing AP 27 and Manufacturing Headquarters, 1 Page (April 15, 1996). Press Release, "Parkervision, Inc. Announces First Quarter Financial Results," Parkervision Marketing and AQ <u>27</u> Manufacturing Headquarters, 3 Pages (April 30, 1996). Press Release, "ParkerVision's New Studio Product Wins Award," Parkervision Marketing and Manufacturing AR <u>27</u> Headquarters, 2 Pages (June 5, 1996). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in

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	AA28	5,4	79,447	12/1	995	Cho	w et al.		375	260	
	AB28	5,4	83,193	01/1	996	Ken	nedy <i>et al</i> .		329	300	
	AC28	5,4	83,549	01/1	996	Wei	nberg <i>et al</i> .		375	200	
	AD28	5,4	83,691	01/1	996	Hec	c et al.		455	234.2	
	AE28	5,4	90,173	02/1	996	Whil	cehart et al.		375	316	
	AF28	5,4	93,581	02/1	996	You	ng et al.		375	350	
 	AG28	5,4	93,721	02/1	996	Reis			455	339	
	AH28	5,4	95,200	02/1	996	Kwa	n et al.		327	554	
	Al28	5,4	95,202	02/1	996	Hsu			327	113	
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	AN	<u>28</u>	Press Releas Marketing and	e, "Pa d Man	rkervision, Ir ufacturing Ho	nc. Anı eadqu	nounces Second Quart arters, 3 Pages (Augus	ter and st 1, 19	l Six Months F 196).	inancial Resi	ults," Parkervision
	AO	<u>28</u>	Press Release Marketing and	e, "Pa I Man	rkervision, Ir ufacturing He	ic. Ani eadqua	nounces Third Quarter arters, 2 Pages (Octob	and Ner 29,	ine Months Fir 1996).	nancial Resul	its," Parkervision
	AP Press Release, "PictureTel and ParkerVision Sign Reseller Agreement," Parkervision Marketing and Manufacturing Headquarters, 2 Pages (October 30, 1996).										
	AQ 28 Press Release, "CLI and ParkerVision Bring Enhanced Ease-of-Use to Videoconferencing," CLI/Parkervision Pages (January 20, 1997).										
	AR	<u>28</u>	Press Release and Manufacti	e, "Pa uring I	rkervision, In Headquarters	c. Anr	ounces Fourth Quarte ges (February 27, 199	r and `	rear End Resu	ılts," Parkerv	ision Marketing
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	AA29	5,49	95,500	02/1	996	Jova	novich <i>et al</i> .		375	206					
	AB29	_	99,267	03/1		1 	et al.		375	206					
	AC29		00,758	03/1		 	npson <i>et al</i> .		359	189					
	AD29	—	17,688	05/19		1	n <i>et al</i> .		455 455	333					
	AE29 AF29	+	19,890	05/19		Pinc	<u> </u>	-	<u>455</u> 327	307 557					
 	AG29		23,719 23,726	06/19			go et al.		32 <i>1</i> 332	103					
-	AH29		23,760	06/19		Kroeger et al. McEwan			342	89					
		_		07/19		Ishiq			375	206					
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		OTHER (Including Author, Title, Date, Pertinent Pages, etc.)													
	AO	<u>29</u> <u>29</u>	Manufacturin	g Head	dquarters, 3	Pages	nounces First Quarter Fi (April 29, 1997). n Make Distance Learnin				-				
	АР	Press Release, "Parkervision Supplies JPL with Robotic Cameras, Cameraman Shot Director for Mars Mission, Parkervision Marketing and Manufacturing Headquarters, 2 pages (July 8, 1997).													
	AQ	<u>29</u>	Press Releas Marketing and	e, "Pa d Manı	rkerVision a ufacturing Ho	n and IBM Join Forces to Create Wireless Computer Peripherals," Parkervision Headquarters, 2 Pages (July 23, 1997).									
	AR	<u>29</u>	Press Releas Marketing and	e, "Pa d Manı	rkerVision, li ufacturing He	on, Inc. Announces Second Quarter and Six Months Financial Results," Parkervision og Headquarters, 3 Pages (July 31, 1997).									
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	AA30		55,453	09/1	996	Kajir	moto et al.	455	266					
	AB30	5,55	57,641	09/1	996	Wei	nberg	375	295					
	AC30	5,55	57,642	09/1	996	Willi	ams	375	316					
	AD30	5,57	79,341	11/1	996	Smit	h et al.	375	267					
	AE30	5,57	79,347	11/1	996	Lind	quist <i>et al</i> .	375	346					
 -	AF30		34,068	12/1	-	Moh	indra	455	324	<u> </u>				
	AG30		92,131	01/1			eche et al.	332	103					
	AH30		02,847	02/1		— <u> </u>	ano <i>et al.</i>	370	484					
	Al30	5,60	2,868	02/1		Wils		375	219	A)				
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	AN	30					nounces Private Placement ages (September 8, 1997).	of 990,000 S	hares," Parken	vision Marketing				
	AO	<u>30</u>	Press Releas Manufacturing	e, "Wa g Head	al-Mart Choo dquarters, 2	ses P Pages	arkervision for Broadcast Pr (October 24, 1997).	oduction," P	arkervision Mar	keting and				
	АР	<u>30</u>	Press Releas Manufacturing	e, "Pa g Head	rkervision, In dquarters, 3 l	ic. An Pages	nounces Third Quarter Finar s (October 30, 1997).	ncial Results	" Parkervision	Marketing and				
	AQ	<u>30</u>	Press Releas Marketing and	e, "Pa d Man	rkerVision Ai ufacturing He	nnoun eadqu	ces Breakthrough in Wireles arters, 3 Pages (December	ss Radio Fre 10, 1997).	quency Techno	logy," Parkervisio				
	AR	<u>30</u>	Press Releas President, Lic Pages (Janua	ensing	g - Wireless '	on, Inc. Announces the Appointment of Joseph F. Skovron to the Position of Villess Technologies," Parkervision Marketing and Manufacturing Headquarters,				osition of Vice adquarters, 2				
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APPLICATION NO. ATTY. DOCKET NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT GROUP FILING DATE August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** DATE CLASS SUB-**FILING DATE DOCUMENT** NAME INITIAL NUMBER CLASS AA31 02/1997 Kim et al. 370 342 5,604,732 AB31 5,608,531 03/1997 Honda et al. 386 1 03/1997 Tanaka et al. 375 269 AC31 5,610,946 AD31 RE 35.494 04/1997 Nicollini 327 554 AE31 04/1997 Mimura et al. 375 340 5,617,451 AF31 5,619,538 04/1997 Sempel et al. 375 328 AG31 5,621,455 04/1997 Rogers et al. 348 6 AH31 05/1997 Bella et al. 455 324 5,630,227 AI31 06/1997 Pandula 375 202 5,640,415 FOREIGN PATENT DOCUMENTS **EXAMINER** DATE COUNTRY CLASS TRANSLATION INITIAL DOCUMENT NUMBER SUB-CLASS AJ31 Yes No AK31 Yes Yes AL31 No **AM31** Yes No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Press Release, "Parkervision Announces Existing Agreement with IBM Terminates-- Company Continues with Strategic Focus Announced in December," Parkervision Marketing and Manufacturing Headquarters, 2 Pages ΑN 31 (January 27, 1998). Press Release, "Laboratory Tests Verify Parkervision Wireless Technology," Parkervision Marketing and AO 31 Manufacturing Headquarters, 2 Pages (March 3, 1998). Press Release, "Parkervision, Inc. Announces Fourth Quarter and Year End Financial Results," Parkervision AP <u>31</u> Marketing and Manufacturing Headquarters, 3 Pages (March 5, 1998). Press Release, "Parkervision Awarded Editors' Pick of Show for NAB 98," Parkervision Marketing and AQ <u>31</u> Manufacturing Headquarters, 2 Pages (April 15, 1998). Press Release, "Parkervision Announces First Quarter Financial Results," Parkervision Marketing and AR <u>31</u> Manufacturing Headquarters, 3 Pages (May 4, 1998). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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	AA32	5,64	10,424	06/1	997	Ban	avong <i>et al.</i>		375	316	
	AB32	5,64	10,428	06/1	997	Abe	et al.		375	334	
	AC32	5,64	10,698	06/1	997	She	n <i>et al.</i>		455	323	
	AD32	5,64	18,985	07/1	997	Bjer	ede <i>et al.</i>		375	219	
<u></u>	AE32	5,65	50,785	07/1	997	Rod	al		342	357	
	AF32	5,66	61,424	08/1	997	Tan)		327	105	
	AG32	5,66	3,878	09/1	997	Wal	ker		363	159	
	AH32	5,66	3,986	09/1	997	Strif	fler		375	260	
	Al32	5,66	8,836	09/1	997	Smit	h <i>et al.</i>		375	316	<u>.</u>
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	AO	<u>32</u> <u>32</u>	Marketing and	d Man	ufacturing H	eadqu	T2DATA' Introduced in I arters, 3 Pages (July 9, s Senior Management T	1998).			
	АР	<u>32</u>					ces Second Quarter and arters, 4 Pages (July 30		nth Financi	al Results," F	Parkervision
	AQ	<u>32</u>	Press Releas Marketing and	e, "Pa d Manı	rkervision Ar ufacturing Ho	nnoun eadqu	ces Third Quarter and N arters, 3 Pages (Octobe	line Mor er 30, 19	ith Financia 98).	l Results," Pa	arkervision
	AR	Press Release, "Questar Infoco Marketing and Manufacturing Ho			mm, lı eadqu	nc. Invests \$5 Million in arters, 3 Pages (Decem	Parkervi ber 2, 1	sion Comm 998).	on Stock," P	arkervision	
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	AA33	5,68	30,078	10/19	997	Ariie		33	2	178	
·	AB33	5,68	30,418	10/19	997	Crof	t et al.	37	5	346	
	AC33		39,413	11/19			millo <i>et al</i> .	36		146	
	AD33		99,006	12/19		 	et al.	32		341	
	AE33		05,955	01/19			burg et al.	33		14	-
	AF33 AG33		10,998 14,910	01/19		Opas Skoczen <i>et al</i> .		45 33		324	
	AH33	_	15,281	02/19		Bly 6		37		344	
	Al33		21,514	02/19			kett et al.	33		3	
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	AN	<u>33</u>	Press Releas Headquarters Press Releas	s, 2 Pa	ges (March (dds Two New Directors," Parkervision Marketing and Manufacturing 5, 1999).					
	AO	33	Marketing and	d Man	ufacturing He	eadqu	arters, 3 Pages (March 5	5, 1999).		Trocure, 1 o	
	АР	<u>33</u>	Press Releas Marketing and	e, "Joi d Man	nt Marketing ufacturing He	Agree eadqu	ement Offers New Auton arters, 2 Pages (April 13	nated Produ , 1999).	iction S	olution," Parl	kervision
	AQ	<u>33</u>	"Project COS Vol. LIV, No.	T 205: 3, pp.	Scintillation 209-211 (Ma	s in Ea	arth-satellite links," <i>Alta I</i> e, 1985).	Frequenza:	Scientif	ic Review in	Electronics, AEI,
· 	AR	33 Razavi, B., RF Microel			roelectronics, Prentice-Hall, pp. 147-149 (1998).						
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ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT GROUP FILING DATE August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL **DOCUMENT** DATE NAME **CLASS** SUB-**FILING DATE** NUMBER **CLASS** AA34 5,724,002 03/1998 Hulick 329 361 AB34 5,724,653 03/1998 Baker et al. 455 296 AC34 5,729,577 03/1998 Chen 375 334 AD34 5,729,829 03/1998 Talwar et al. 455 63 AE34 5.732.333 03/1998 Cox et al. 455 126 AF34 5,736,895 04/1998 Yu et al. 327 554 AG34 5,737,035 04/1998 Rotzoli 348 725 AH34 04/1998 113 5,742,189 Yoshida et al. 327 AI34 5,748,683 05/1998 Smith et al. 375 347 **FOREIGN PATENT DOCUMENTS EXAMINER** DOCUMENT NUMBER DATE INITIAL COUNTRY CLASS SUB-TRANSLATION **CLASS** AJ34 Yes No AK34 Yes No AL34 Yes No **AM34** Yes No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Reeves, R.J.D., "The Recording and Collocation of Waveforms (Part 1)," Electronic Engineering, Morgan ΑN <u>34</u> Brothers Limited, Vol. 31, No. 373, pp. 130-137 (March 1959). Reeves, R.J.D., "The Recording and Collocation of Waveforms (Part 2)," Electronic Engineering, Morgan AO <u>34</u> Brothers Limited, Vol. 31, No. 374, pp. 204-212 (April 1959). Rein, H.M. and Zahn, M., "Subnanosecond-Pulse Generator with Variable Pulsewidth Using Avalanche AP 34 Transistors," Electronics Letters, IEE, Vol. 11, No. 1, pp. 21-23 (January 9, 1975). Riad, S.M. and Nahman, N.S., "Modeling of the Feed-through Wideband (DC to 12.4 Ghz) Sampling-Head." AQ <u>34</u> IEEE MTT-S International Microwave Symposium Digest, IEEE, pp. 267-269 (June 27-29, 1978). Rizzoli, V. et al., "Computer-Aided Noise Analysis of MESFET and HEMT Mixers," IEEE Transactions on AR <u>34</u> Microwave Theory and Techniques, IEEE, Vol. 37, No. 9, pp. 1401-1410 (September 1989). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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	AA35	RE	35,829	06/1	998	Sand	derford, Jr.		375	200	
	AB35	5,70	60,645	06/19	998	Com	te <i>et al.</i>		329	304	
	AC35	5,70	64,087	06/1	998	Clar	<	_	327	105	
	AD35	5,76	67,726	06/19	998	Wan	g		327	356	
	AE35		68,118	06/19			k et al.		363	72	
	AF35		71,442	06/19		Wang et al.			455	93	
	AG35		77,692	07/19		Ghosh			348	725	
	AH35		77,771	07/19		Smith			359	180	
	A135	5,78	36,844	07/19			ers et al.		348	6	<u> </u>
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	AK35										Yes No
	AL35										Yes No
	AM35										Yes No
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	AO	<u>35</u>	Jersey, includ	ding, fo	er example,	Chapte	nmunication Systems, Der V, Pulse Modulation S of Antenna Size on OT E, Vol. 19, No. 24, pp. 10	Systems S Signal	(1965). Scintillation	ns and Their	· · · · · · · · · · · · · · · · · · ·
	AP	<u>35</u>	Russell, R. al Proceedings,	nd Hoa Micro	are, L., "Milli wave Exhib	imeter itions a	Wave Phase Locked Os nd Publishers, pp. 238-	scillators 242 (Oct	," <i>Military I</i> ober 25-27	Microwaves '7', 1978).	78 Conference
	AQ	<u>35</u>	Sabel, L.P., " Communicati Australia, pp.	ions," T	The Institution	on of E	f a Robust Flexible Recongineers Australia Come, , 1990).	eiver/Dei municatio	multiplexer ons Confer	for Broadcas ence, Institut	st Data Satellite ion of Engineers,
	AR	<u>35</u>	Salous, S., "I /, IEE, Vol. 13				ICW waveforms for widune 1992).	eband ch	nannel cha	racterization,	" IEE Proceedings
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APPLICATION NO. ATTY. DOCKET NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT GROUP FILING DATE August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** CLASS DATE NAME SUB-**FILING DATE DOCUMENT** INITIAL NUMBER **CLASS** AA36 5,793,801 08/1998 Fertner 375 219 **AB36** 5,793,818 08/1998 Claydon et al. 375 326 AC36 09/1998 Zuckerman 455 208 5,802,463 AD36 09/1998 Cafarella et al. 375 206 5.809.060 Fernandez et al. 356 318 AE36 5,818,582 10/1998 AF36 5,825,254 10/1998 331 25 AG36 5,834,985 11/1998 Sundegård 332 100 AH36 5,864,754 01/1999 Hotto 455 280 AI36 5,881,375 03/1999 **Bonds** 455 118 FOREIGN PATENT DOCUMENTS **EXAMINER** DOCUMENT NUMBER DATE COUNTRY **CLASS** SUB-TRANSLATION INITIAL CLASS AJ36 Yes No **AK36** Yes No AL36 Yes No **AM36** Yes No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) AN 36 "Sampling Loops Lock Sources to 23 Ghz," Microwaves & RF, Penton Publishing, p. 212 (September 1990). Sasikumar, M. et al., "Active Compensation in the Switched-Capacitor Biguad," Proceedings of the IEEE, IEEE, AO 36 Vol. 71, No. 8, pp. 1008-1009 (August 1983). Saul, P.H., "A GaAs MESFET Sample and Hold Switch," Fifth European Solid State Circuits Conference-AΡ <u>36</u> ESSCIRC 79, IEE, pp. 5-7 (1979). Shen, D.H. et al., "A 900-MHZ RF Front-End with Integrated Discrete-Time Filtering," IEEE Journal of Solid-AQ 36 State Circuits, IEEE Solid-State Circuits Council, Vol. 31, No. 12, pp. 1945-1954 (December 1996). Shen, X.D. and Vilar, E., "Anomalous transhorizon propagation and meteorological processes of a multilink AR 36 path," Radio Science, American Geophysical Union, Vol. 30, No. 5, pp. 1467-1479 (September-October 1995). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in

Page 37 of 56 ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANT Sorrells et al. INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL **DOCUMENT** DATE NAME CLASS SUB-FILING DATE NUMBER **CLASS** 5,892,380 **AA37** 04/1999 Quist 327 172 **AB37** 5,894,239 04/1999 Bonaccio et al. 327 176 AC37 5,896,562 04/1999 Heinonen 455 76 AD37 5,900,747 05/1999 **Brauns** 9 327 AE37 5,901,054 05/1999 Leu et al. 41 363 AF37 5,901,187 05/1999 linuma 375 347 AG37 5,901,344 05/1999 Opas 455 76 **AH37** 5,901,347 05/1999 Chambers et al. 455 234.1 **AI37** 5,901,348 05/1999 Bang et al. 455 254 **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY **CLASS** SUB-TRANSLATION **CLASS** AJ37 Yes No AK37 Yes No AL37 Yes No **AM37** Yes Nο OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Shen, X. and Tawfik, A.N., "Dynamic Behaviour of Radio Channels Due to Trans-Horizon Propagation AN <u>37</u> Mechanisms," *Electronics Letters*, IEE, Vol. 29, No. 17, pp. 1582-1583 (August 19, 1993). Shen, X. et al., "Modeling Enhanced Spherical Diffraction and Troposcattering on a Transhorizon Path with aid AO <u>37</u> of the parabolic Equation and Ray Tracing Methods," IEE Colloquium on Common modeling techniques for electromagnetic wave and acoustic wave propagation, IEE, pp. 4/1-4/7 (March 8, 1996). Shen, X. and Vilar, E., "Path loss statistics and mechanisms of transhorizon propagation over a sea path," ΑP <u>37</u> Electronics Letters, IEE, Vol. 32, No. 3, pp. 259-261 (February 1, 1996). Shen, D. et al., "A 900 MHZ Integrated Discrete-Time Filtering RF Front-End," IEEE International Solid State AQ <u>37</u> Circuits Conference, IEEE, Vol. 39, pp. 54-55 and 417 (February 1996). Spillard, C. et al., "X-Band Tropospheric Transhorizon Propagation Under Differing Meteorological Conditions," AR <u>37</u> Sixth International Conference on Antennas and Propagation (ICAP 89) Part 2: Propagation, IEE, pp. 451-455 (April 4-7, 1989).

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	AC38	5,9	03,187	05/19	999	Clav	erie <i>et al.</i>	329		342	
	AD38	5,90	03,196	05/19	999	Salv	i et al.	331		16	
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	AF38		03,553	05/19		Saka	amoto <i>et al</i> .	370		338	
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	AQ	<u>38</u>	Sugarman, R. American Inst	, "Sam itute o	npling Oscillo f Physics, Vo	scope ol. 28,	e for Statistically Varying P No. 11, pp. 933-938 (Nov	Pulses," <i>The</i> ember 1957	Revie 7).	ew of Scientii	fic Instruments,
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	AQ	<u>41</u> <u>41</u>	(1985). Tsividis, Y., "F	Princip	oles of Opera	(Ed.), Design of MOS VLSI Circuits for Telecommunications, Prentice-Hall, p. 304 eration and Analysis of Switched-Capacitor Circuits," Proceedings of the IEEE, 940 (August 1983).						
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	AC44	5,9	53,642	09/1	999	Feld	tkeller <i>et al</i> .	45	5	195.1					
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	AE44	5,8	59,878	01/1	999	Phill	ips et al.	37	5	316					
	AF44	5,89	94,496	04/1	999	Jone	es	45	5	126					
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	AP	<u>44</u>	Vilar, E. et al., "Angle of Arrival Fluctuations in High and Low Elevation Earth Space Paths," Fourth International Conference on Antennas and Propagation (ICAP 85), Electronics Division of the IEE, pp. 83-88 (April 16-19, 1985).												
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	AR Vilar, E. et al., "CERS*. Millimetre-Wave Beacon Package and Related Payload Doppler Correction Strategies," Electronics Division Colloquium on CERS- Communications Engineering Research Satellite, IEE, pp. 10/1-10/10 (April 10, 1984).														
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	AO	Electronics Letters, IEE, Vol. 21, No. 14, pp. 620-622 (July 4, 1985).											
	AP	<u>45</u>	Vilar, E., "Depolarization and Field Transmittances in Indoor Communications," <i>Electronics Letters</i> , IEE, Vol. 27, No. 9, pp. 732-733 (April 25, 1991).										
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	AR	<u>45</u>	Vilar, E. et al., European Mic 1988).	, "Expe	erimental Sys	stem a	and Measurements of T rowave Exhibitions and	ranshorizon Publishers	Signal I Ltd., pp.	evels at 11 (429-435 (Se	Ghz," <i>18th</i> eptember 12 - 15,		
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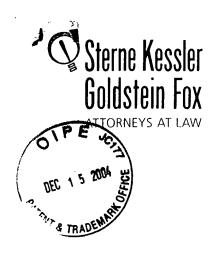
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Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Cornwell Robert W. Esmond Tracy-Gene G. Durkin Michele A. Cimbala Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael O. Lee Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcorn Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger

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Kimberly N. Reddick Theodore A. Wood Elizabeth J. Haanes Bruce E. Chalker Joseph S. Ostroff Frank R. Cottingham Christine M. Lhulier Christine M. Lhulier Ree Lynn Prengaman Jane Shershenovich* Lawrence J. Carroll* George S. Bardmesser Daniel A. Klein* Rodney G. Maze Jason D. Eisenberg Michael A. Specht* Andrea J. Kama'e Tracy L. Muller* Jon E. Wright*

LuAnne M. Yuricek*

Registered Patent Agents • Karen R. Markowicz Nancy J. Leith Ann E. Summerfield Helene C. Carlson Gaby L. Longsworth Matthew J. Dowd Aaron L. Schwartz Aaron L. Schwartz Angelique G. Uy Mary B. Tung Katrina Y. Pei Bryan L. Skelton Robert A. Schwartzman John J. Figueroa Timothy A. Doyle Jennifer R. Mahalingappa Teresa A. Colelia Jeffrey S. Lundgren Victoria S. Rutherford

Of Counsel Kenneth C. Bass III Lisa A. Dunner Evan R. Smith

*Admitted only in Maryland * Admitted only in Virginia • Practice Limited to Federal Agencies

June 9, 2003

WRITER'S DIRECT NUMBER: (202) 772-8674 INTERNET ADDRESS: MLEE@SKGF.COM

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Group Art Unit 2634

Re:

U.S. Utility Patent Application

Appl. No. 09/632,856; Filed: August 4, 2000

For:

Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and

Circuit Implementations

Inventors:

David F. SORRELLS et al.

Our Ref:

1744.0630003

Sir:

Transmitted herewith for appropriate action are the following documents:

- Second Preliminary Amendment Under 37 C.F.R. § 1.115 in the Revised Format 1. of the Pre-OG Notice Dated January 31, 2003;
- 2. Supplemental Information Disclosure Statement;
- 3. A listing of the cited documents on Form PTO-1449 (4 pages);
- 4. Copies of the cited documents (AE49-AI49; AL19-AM19; AO56-AR56; AA50-AI50; AJ20-AM20; AN57-AQ57; AA51-AF51; AJ21-AM21; AJ22); and
- 5. One (1) return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox P.L.L.C.: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skqf.com

Commissioner for Patents June 9, 2003 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michael Q. Lee

Attorney for Applicants Registration No. 35,239

Enclosures

 $:: ODMA\MHODMA\SKGF_DC1; 138439; 1$

Sterne, Kessler, Goldstein & Fox PLLC. : 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skgf.com



ATTORNEYS AT LAW

Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Cornwell Robert W. Esmond Tracy-Gene G. Durkin Michele A. Cimbala Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcorn Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger

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Tiera S. Coston* Tiera S. Coston

Aric Willedford

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Registered Patent Agents • Karen R. Markowicz Nancy J. Leith Helene C. Carlson Gaby L. Longsworth Matthew | Dowd Aaron L. Schwartz Mary B. Tung Katrina Y. Pei Quach Bryan L. Skelton Robert A. Schwartzman Timothy A. Doyle Jennifer R. Mahalingappa Teresa A. Colella

Victoria S. Rutherford Eric D. Hayes

Of Counsel Kenneth C. Bass III Evan R. Smith

*Admitted only in Maryland *Admitted only in Virginia •Practice Limited to Federal Agencies



January 23, 2004

FILE COPY

WRITER'S DIRECT NUMBER: (202) 772-8674 INTERNET ADDRESS: MLEE@SKGF.COM

Art Unit 2634

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Appl. No. 09/632,856; Filed: August 4, 2000

For:

Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and

Circuit Implementation

Inventors:

Sorrells et al.

Our Ref:

1744.0630003

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Second Supplemental Information Disclosure Statement;
- 2. A list of the cited documents on Forms PTO-1449 (6 pages);
- 3. A compact Disc labeled "Disc 3" in PDF format (which contains electronic copies of the cited documents);
- 4. Copies of cited documents: AA56, AB56, AC56, AD56, AE56, AN59;
- 5. Return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox PLL.C.: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skgf.com`

Commissioner for Patents January 23, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

Trne, Resiler, Goldstein & Fox p.l.l.c.

Wichael Q/Le

Attorney for Applicants Registration No. 35,239

MQL/JTH/agj SKGF\DCI\222608.1 DEC , 5 2004 355 IN THE

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

David F. SORRELLS et al.

Appl. No. 09/632,856

Filed: August 4, 2000

For:

Wireless Local Area Network

(WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and

Circuit Implementations

Confirmation No.: 2377

Art Unit: 2634

Examiner: Chin, Stephen

Atty. Docket: 1744.0630003

Supplemental Information Disclosure Statement

Commissioner for Patents Washington, D.C. 20231

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The reference numbering on the accompanying Form PTO-1449 for this Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may

not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Document AE49 is a co-owned patent which is directed to related subject matter.

Document AF49 was cited in an Office Action in co-pending U.S. Patent Application Serial No. 09/489,675, filed January 24, 2000, entitled "Bar Code Scanner Using Universal Frequency Translation Technology for Up-Conversion and Down-Conversion," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 6,091,940, which was cited in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.

Documents AG49-AI49 and AA50-AC50 were cited in an Office Action in copending U.S. Patent Application Serial No. 09/476,092, filed January 3, 2000, entitled "Analog Zero IF FM Decoder and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter.

Documents AL19, AM19 and AD50 were cited in an International Search Report in PCT Appl. No. PCT/US01/08969, filed March 22, 2001, entitled, "Integrated Frequency Translation and Selectivity with a Gain Control Functionality, and Applications Thereof," directed to related subject matter. Also cited in said Search Report were U.S. Patent Nos. 4,888,557 and 5,801,654 and PCT Publication Nos. WO 96/02977 and WO 96/39750, which were cited in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.

Document AJ20 was cited in an Office Action in co-pending Japanese Patent Application Serial No. 2000-577,764, filed June 21, 2000, entitled "Applications of

Universal Frequency Translation,". Also cited in said Office Action was Japanese Patent Publication No. 58-133004, which was cited in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.

Documents AK20, AL20, AJ21, AK21, AL21, AP56 and AQ56 were cited in an International Search Report in PCT Appl. No. PCT/US01/12086, filed April 13, 2001, entitled, "Frequency Converter," directed to related subject matter. Also cited in said International Search Report was U.S. Patent No. 5,844,449, which was cited in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.

Document AE50 was cited in an Office Action in co-pending U.S. Patent Application Serial No. 09/376,509, filed August 18, 1999, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter.

Documents AM21 and AJ22 were cited in an Official Notice of Rejection in copending Japanese Patent Application No. 2000-577,765, filed June 21, 2000, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter. Also cited in said Rejection were Japanese Patent Publication Nos. 56-114451, 8-32556 and 8-139524, which were cited in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.

Documents AF50-AH50, AA51, AC51 and AF51 were cited in and Office Action in co-pending U.S. Patent Application Serial No. 09/476,330, filed January 3, 2000, entitled "Multi-Mode, Multi-Band Communication System," directed to related subject matter.

Document AI50 was cited in an Office Action in co-pending U.S. Patent Application Serial No. 09/567,963, filed May 10, 2000, entitled "Frequency Synthesizer Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AB51, AD51 and AE51 were cited in an Office Action in co-pending U.S. Patent Appl. No. 09/526,041, filed March 14, 2000, entitled, "DC Offset, Re-radiation, and I/Q Solutions Using Universal Frequency Translation Technology," directed to related subject matter.

The other documents in the PTO-1449 do not fall within the above categories.

It is noted that some of these documents could be classified in more than one of the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ This Information Disclosure Statement is being filed before the mailing of a first Office Action. No statement or fee is required.
- This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
 - □ a. I hereby state that each item of information contained in this Information

 Disclosure Statement was cited in a communication from a

 foreign patent office in a counterpart foreign application not more
 than three months prior to the filing of this Information Disclosure

 Statement. 37 C.F.R. § 1.97(e)(1).

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- □ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ c. Attached is our Check No. 32067 in the amount of \$_____ in payment of the fee under 37 C.F.R. § 1.17(p).
- □ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. A separate Petition to the Group Director, requesting consideration of this Information Disclosure Statement, is concurrently submitted herewith, along with our Check No. _______ in the amount of \$______ in payment of the fee under 37 C.F.R. § 1.17(i).
 - □ a. I hereby state that each item of information contained in this Information

 Disclosure Statement was cited in a communication from a

 foreign patent office in a counterpart foreign application not more
 than three months prior to the filing of this Information Disclosure

 Statement. 37 C.F.R. § 1.97(e)(1).
 - □ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ 4. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found

- by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- 5. Concise explanations of the relevance of non-English language documents AJ20AL20, AK21, AM21 and AJ22 appear below:
 - Document AJ20 (JP 60-130203) appears to describe a frequency converter. A copy of the English language translation of document AJ20 is enclosed as document AO56 on the attached PTO-1449.
 - Document AK20 (DE 196 27 640 A1) appears to describe a mixer. Document AK20 is a counterpart German application of U.S. Patent No. 5,680,078, which was cited in Applicants' Information Disclosure Statement filed on July 25, 2002 in connection with the above-captioned application.
 - Document AL20 (EP 0 087 336 A1) appears to describe a transistorized mixer for microwave transmitters. The granted version of document AL20 is cited as document AM20 (EP 0 087 336 B1) and contains an Englishlanguage version of the claims.
 - Document AK21 (FR 2 669 787 A1) appears to describe a symmetrical super high frequency mixer. A copy of the English-language abstract of document AK21 is enclosed as document AR56 on the attached PTO-1449.
 - Document AM21 (JP 61-30821) appears to describe a squelch device. A copy of the English-language abstract of document AM21 is enclosed as document AP57 on the attached PTO-1449.
 - Document AJ22 (JP 5-327356) appears to describe a frequency converter. A copy of the English-language abstract of document AJ22 is enclosed as document AQ57 on the attached PTO-1449.
- □ 6. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. ________, filed _______, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

PNE, KASSLER, GOLDSTEIN & FOX P.L.L.C.

Attorney for Applicants Registration No. 35,239

Date: June 9, 2003

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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09/632,856

Due Date: None

2634 Art Unit:

Chin, Stephen Examiner:

Docket:

1744.0630003

MQL/JEW Atty:

Filed: For:

August 4, 2000 Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology

Including Multi-Phase Embodiments and Circuit Implementations

When receipt stamp is placed hereon, the USPTO acknowledges receipt of the following documents:

SKGF Cover Letter;

Application No.:

Second Preliminary Amendment Under 37 C.F.R. § 1.115 in the Revised Format of the Pre-OG Notice Dated 2. January 31, 2003;

Supplemental Information Disclosure Statement; 3.

A listing of the cited documents on Form PTO-1449 (4 pages); 4.

Copies of the cited documents (AE49-AI49; AL19-AM19; AO56-AR56; AA50-AI50; AJ20-AM20; AN57-AQ57; 5. AA51-AF51; AJ21-AM21; AJ22); and

One (1) return postcard. 6.

Please Date Stamp And Return To Our Courier

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Sterne, Kessler, Goldstein & Fox P.L.L.C. 1100 New York Avenue, NW Washington, DC 20005-3934

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ATTY. DOCKET NO. 1744.0630003

APPLICATION NO. 09/632,856

APPLICANT

David F. SORRELLS et al.

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FILING DATE August 4, 2000 GROUP 2634

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	AE49	6.42	1,534 B1	07/20	002					08/18/1999	
	AF49	+	0,244 B1	12/20	001					01/16/1998	
	AG49	4,38	4,357	05/19	deBuda et al.						
	AH49	4,47	0,145	09/19							
	AI49	5,60	0,680	02/19	997	Mish	ima <i>et al.</i>				
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	AL19	EP 0 254 844 A2 02/198		02/1988		EP	H03D	7/00			
	AM19 EP 0 632 577 A1 0		01/1995		EP	H03D	7/16	N/			
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	AO	<u>56</u>	Translation o	ranslation of Japanese Patent Publication No. 60-130203, 3 pages (July 11, 1985- Date of publication of oplication).							
	AP	<u>56</u>	Razavi, B., "/ Digest of Ted	4 900- chnical	MHz/1.8-Gh: Papers, IEE	z CMC EE, pp.	OS Transmitter for Dual-E 128-131 (1998).	Band Application	s," Symposium	on VLSI Circuits	
	Q	Ritter, G.M., "SDA, A New Solution for Transceivers," 16th European Microwave Conference, Microwave Exhibitions and Publishers, pp. 729-733 (September 8, 1986).									
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APPLICATION NO. ATTY. DOCKET NO. 09/632,856 1744.0630003 FORM PTO-1449 APPLICANT David F. SORRELLS et al. SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT GROUP FILING DATE 2634 August 4, 2000 **U.S. PATENT DOCUMENTS EXAMINER** DOCUMENT DATE NAME **CLASS** SUB-**FILING DATE** INITIAL **CLASS** NUMBER 02/1997 AA50 5,606,731 Pace et al. AB50 5,870,670 02/1999 Ripley et al. AC50 6,314,279 B1 11/2001 Mohindra 06/29/1998 AD50 5,633,815 05/1997 Young 04/1966 Kryter AE50 3,246,084 11/1972 Moore AF50 3,702,440 3,767,984 10/1973 Shinoda et al. AG50 12/1974 Shen AH50 3,852,530 AI50 4,220,977 09/1980 Yamanaka **FOREIGN PATENT DOCUMENTS EXAMINER TRANSLATION** DOCUMENT NUMBER DATE COUNTRY CLASS SUB-INITIAL **CLASS** 07/1985 JP H03D 7/00 Yes AJ20 JP 60-130203 (Doc. AO56) 01/1997 DE H₀3D 7/12 No AK20 DE 196 27 640 A1 7/12 08/1983 EP H₀3D No AL₂₀ EP 0 087 336 A1 AM20 EP 0 087 336 B1 07/1986 EP H₀3D 7/12 No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Akos, D.M. et al., "Direct Bandpass Sampling of Multiple Distinct RF Signals," IEEE Transactions on AN <u>57</u> Communications, IEEE, Vol. 47, No. 7, pp. 983-988 (July 1999). Patel, M. et al., "Bandpass Sampling for Software Radio Receivers, and the Effect of Oversampling on Aperture AO <u>57</u> Jitter," VTC 2002, IEEE, pp. 1901-1905 (2002). English-language Abstract of Japanese Patent Publication No. 61-030821, 1 Page (February 13, 1986- Date of AP 57 publication of application). English-language Abstract of Japanese Patent Publication No. 05-327356, 1 Page (December 10, 1993 - Date AQ <u>57</u> of publication of application). **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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	AA51	5,016,242	05/1	991	Та	ng				
	AB51	5,937,013	08/1	999	La	m <i>et al.</i>				01/03/1997
	AC51	6,014,551	01/2	000	Pe	sola et al.				07/16/1997
	AD51	6,073,001	06/2	000	So	koler				05/08/1998
	AE51	6,085,073	07/2	000	Pa	lermo et al.				03/02/1998
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	AJ21	EP 0 789 449 A2				EP HO		3D	7/12	N/A
	AK21	FR 2 669 787 A1				FR	H0	3D	7/14	No
	AL21	GB 2 324 919 A	2 324 919 A			GB	НО	3D	7/18	N/A
	AM21	JP 61-30821		02/1986	•	JP	HO	4B	1/10	No
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N THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Sorrells et al.

Appl. No. 09/632,856

Filed: August 4, 2000

For: Win

Wireless Local Area Network

(WLAN) Using Universal Frequency Translation Technology Including Multi-

Phase Embodiments and Circuit Implementation

Confirmation No. 2377

Art Unit: 2634

Examiner: Kim, Kevin

Atty. Docket: 1744.0630003

Second Supplemental Information Disclosure Statement

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Second Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Supplemental Information Disclosure Statement filed on June 9, 2003 in connection with the above-captioned application.

In addition to providing hard copies of the documents as required by applicable rules (see box 7 below), Applicants herewith provide a Compact Disc labeled "Disc 3" having stored thereon searchable electronic copies (in PDF format) of many of the documents listed on the PTO-1449. More specifically, the CD contains electronic copies of documents AG51-AI51, AA52-AI52, AA53-AI53, AA54-AG54, AK22, AL22, AM22, AJ23, AK23, AR57 and AN58-AR58. In addition, the CD contains electronic copies of

documents AC46-AI46, AA47-AI47, AA48-AI48, AA49, AE49-AI49, AA50-AI50, AA51-AF51, AM13, AJ14-AM14, AJ15-AM15, AJ16-AM16, AJ17-AM17, AJ18-AM18, AJ19-AM19, AJ20-AM20, AJ21-AM21, AJ22, AQ51, AR51, AN52-AR52, AN53-AR53, AN54-AR54, AN55-AR55, AN56-AR56 and AN57-AQ57, all of which were cited in previous Information Disclosure Statements. Documents AH54, AI54, AA55-AI55, AA56-AE56 and AN59 have not yet been scanned. The file names on the CD correspond to the identifiers on the PTO-1449s. It is noted that the CD is being provided in addition to hard copies of the documents (as required by applicable rules) for the convenience of the Examiner.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Document AH51 was cited in an Office Action in related U.S. Patent Application Serial No. 09/476,092, filed January 3, 2000, entitled "Analog Zero IF FM Decoder and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter. Also cited in the Office Action were U.S. Patent Nos. 5,600,680 and 5,606,731,

which have already been cited in the present application in the Supplemental Information Disclosure Statement, filed June 9, 2003.

Documents AI51, AA52, AF52, AA55 and AI55 are co-owned patents which are directed to related subject matter.

Documents AB52, AE56, AN58-AP58 and AN59 were cited in Office Actions in related U.S. Patent Appl. No. 09/567,977, filed May 10, 2000, entitled, "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AE52 and AJ23 were cited in an Invitation to Pay Additional Fees in related PCT Appl. No. PCT/US01/43077, filed November 14, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

Documents AG52-AI52 and AA53 were cited in an Office Action in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AB53-AE53 were cited in an International Search Report in related PCT Application No. PCT/US02/35861, filed November 8, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AF53-AI53 and AA54-AC54 were cited in an Office Action in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Family Radio

System with Multi-Mode and Multi-Band Functionality," directed to related subject matter.

Documents AD54-AG54 were cited in an International Search Report in related PCT Application No. PCT/US03/16403, filed May 27, 2003, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter.

Documents AH54 and AI54 were cited in an Office Action in related U.S. Patent Application No. 09/550,642, filed April 14, 2000, entitled "Method and System for Down-converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter.

Documents AB55-AF55 were cited in an Office Action in related U.S. Patent Application No. 09/548,923, filed April 13, 2000, entitled "Method and System for Frequency Conversion with Modulation Embodiments," directed to related subject matter. Also cited in the Office Action were U.S. Patent Nos. 6,091,940 and 6,353,735, which have already been cited in the present application in the Information Disclosure Statement, filed July 25, 2002.

Documents AG55 and AH55 were cited in an Office Action in related U.S. Patent Application No. 09/543,867, filed April 5, 2000, entitled "Automated Meter Reader Applications of Universal Frequency Translation," directed to related subject matter.

Documents AA56 and AB56 were cited in an Office Action in related U.S. Patent Application No. 10/317,181, filed December 12, 2002, entitled "Differential Frequency Down-Conversion Using Techniques of Universal Frequency Translation Technology," directed to related subject matter.

Documents AC56 and AD56 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AK22-AM22, AA52, AB52 and AQ58 were cited in an International Search Report in related PCT Appl. No. PCT/US01/15555, filed May 16, 2001, entitled, "Apparatus, System, and Method for Down-Converting and Up-Converting Electromagnetic Signals," directed to related subject matter. Also cited the International Search Reportswere U.S. Patent Nos. 4,888,557, 5,454,007, 5,640,698 and 5,705,949, and PCT Publication No. WO 96/02977, which have already been cited in the present application in the Information Disclosure Statement, filed July 25, 2002.

Document AK23 was cited in an Office Action in related Japanese Patent Application No. 2000-577,764, filed June 21, 2000, entitled "Applications of Frequency Translation," directed to related subject matter.

The other documents in the PTO-1449 do not fall within the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

□ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.

- 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.
- □ 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application.
 - □ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
 - □ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
 - ☐ c. Attached is our PTO-2038 Credit Card Payment Form in the amount of _____ in payment of the fee under 37 C.F.R. § 1.17(p).
- ☐ 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our Check No. ______ in the amount of \$ _____ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
 - □ a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement

was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- □ b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ 5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- 6. A concise explanation of the relevance of non-English language document AK23 appears below:
 - Document AK23 (JP 9-36664) appears to describe a frequency conversion circuit. A copy of the English-language abstract of document AK23 is enclosed as document AR58.
- Topies of documents AA56-AE56 and AN59 are enclosed. Copies of the remaining documents were submitted to the Patent Office in Information Disclosure Statements that comply with 37 C.F.R. § 1.98(a)-(c) in Application No. 09/525,615, filed March 14, 2000, and Appl. No. 09/526,041, filed March 14, 2000, which are both relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Michael Q. Lee

Attorney for Applicants Registration No. 35,239

Date: \ | 23 64

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Cornwell Robert W. Esmond Tracy-Gene G. Durkin Michaele A. Cimbala Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcorn Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinger Judith U. Kim Timothy J. Shea, Jr. Patrick E. Garrett Jeffrey T. Helvey Heidi L. Kraus Albert L. Ferro* Donald R. Banowit Peter A. Jackman Teresa U. Medler Jeffrey S. Weaver Kendrick P. Patterson Vincent L. Capuane Eldora Ellison Floyd Thomas C. Fiala Brian J. Del Bunon Virgil Lee Beaston Theodore A. Wood Elizabeth J Haanes Joseph S. Ostroff Frank R. Cottingham Christine M. Lhulier Rae Lynn Prengaman George S. Bardmesser Daniel A. Kleman Jason D. Eisenberg Michael D. Specht Andrea J. Kamage Tracy L. Muller L. Muller L. Muller L. Muller L. Coston Aric W. Ledford Helene C. Carlson Timothy A. Doyle Jessica L. Parezo Gaby L. Longsworth

Lori A. Gordon*
Nicole D. Dretar'
Ted J. Ebersole
Jyoti C. Iyer'
Laura A. Vogel

Registered Patent Agents*
Karen R. Markowicz
Nancy J. Leith
Matthew J. Dowd
Aaron L. Schwartz
Katrina Yujian Pei Quach
Bryan L. Schwartz
Robert A. Schwartzman
Teresa A. Colella
Jeffrey S. Lundgren
Victoria S. Rutherford
Michelle K. Holoubek

Robert H. DeSelms Simon J. Elliott Julie A. Heider Mita Mukherjee Scott M. Woodhouse Michael G. Penn Christopher J. Walsh

Of Counsel Kenneth C. Bass III Evan R. Smith Marvin C. Guthrie

*Admitted only in Maryland *Admitted only in Virginia *Practice Limited to Federal Agencies

August 19, 2004

WRITER'S DIRECT NUMBER: (202) 772-8675 INTERNET ADDRESS: JHELVEY@SKGF.COM

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450 FILE COPY

Art Unit 2634

Re: U.S. Utility Patent Application

Appl. No. 09/632,856; Filed: August 4, 2000

For: Wireless Local Area Network (WLAN) Using Universal Frequency
Translation Technology Including Multi-Phase Embodiments and
Circuit Implementation

Circuit Implementation

Inventors: Sorrells *et al.*Our Ref: 1744.0630003

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. SKGF Cover Letter;
- 2. Fee Transmittal (Form PTO/SB/17);
- 3. Third Supplemental Information Disclosure Statement;
- 4. Form PTO-1449 (6 pages);
- 5. Return postcard; and
- 6. PTO-2038 Credit Card Payment Form for \$180.00 to cover: \$180.00 for IDS Late Filing Surcharge.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

1100 New York Avenue, NW : Washington, DC 20005 : 202.371.2600 - 202.371.2540 :

Commissioner for Patents August 19, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

J.H Helver

Jeffrey T. Helvey Attorney for Applicants Registration No. 44,757

JTH/agj 301413_1.DOC Sorrells et al. 15 TOOL

Applicants: Sorrells et

Art Unit: 2634

Examiner: Kim, Kevin

Docket:

Atty: MQL/JTH

1744.0630003

Application No.: 09/632,856

Filed: August 4, 2000
For: Wireless Local A

Wireless Local Area Network (WLAN) Using Universal

Frequency Translation Technology Including Multi-Phase Embodiments and Circuit Implementation

When receipt stamp is placed hereon, the USPTO acknowledges receipt of the following documents:

SKGF Cover Letter;

2. Second Supplemental Information Disclosure Statement;

3. A list of the cited documents on Forms PTO-1449 (6 pages);

4. A compact Disc labeled "Disc 3" in PDF format (which contains electronic copies of the cited documents);

5. Copies of cited documents: AA56, AB56, AC56, AD56, AE56, AN59; and

6. Return postcard.



Please Date Stamp and Return to Our Courier

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C. 1100 New York Avenue, NW Washington, DC 20005-3934 FORM PTO 1449

SECOND PLEMENTAL
INFORMATION CLOSURE STATEMENT

ATTY. DOCKET NO. 1744.0630003 APPLICATION NO. 09/632,856

APPLICANTS

Sorrells et al.

FILING DATE August 4, 2000 GROUP 2634

U.S. PATENT DOCUMENTS												
EXAMINER INITIAL	DOCUMENT DATE NUMBER			NAM	E	CLASS	SUB- CLASS	FILING DATE				
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EXAMINER INITIAL		DOCUMENT NUMBER		DATE		COUNTRY	CLASS	SUB- CLASS	TRANSLATION			
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	AK22	EP 0	EP 0 643 477 A2 & A3		03/1995		EP			N/A		
	AL22	EP 0	P 0 877 476 A1		11/1998		EP			N/A		
	AM22	EP 0	EP 0 977 351 A1		02/2000		EP			N/A		
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Page 2 of 6 ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANTS Sorrells et al. SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT FILING DATE GROUP August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER INITIAL DOCUMENT** DATE NAME **CLASS** SUB-**FILING DATE** NUMBER **CLASS** AA52 6,560,301 B1 05/2003 Cook ét al. AB52 6,098,046 08/2000 Cooper et al. AC52 5,564,097 10/1996 Swanke AD52 5,898,912 04/1999 Heck et al. AE52 4,660,164 04/1987 Leibowitz AF52 6,580,902 B1 06/2003 Sorrells et al. AG52 4,857,928 08/1989 Gailus et al. AH52 5,389,839 02/1995 Heck AI52 5,471,665 11/1995 Pace et al. **FOREIGN PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY CLASS . SUB-TRANSLATION **CLASS** AJ23 WO 00/31659 A1 06/2000 PCT N/A AK23 02/1997 .IP JP 9-36664 No AL AM OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Dines, J.A.B., "Smart Pixel Optoelectronic Receiver Based on a Charge Sensitive Amplifier Design," IEEE ΑN <u>58</u>

Journal of Selected Topics in Quantum Electronics, IEEE, Vol. 2, No. 1, pp. 117-120 (April 1996). Simoni, A. et al., "A Digital Camera for Machine Vision," 20th International Conference on Industrial Electronics, AO 58 Control and Instrumentation, IEEE, pp. 879-883 (September 1994). Stewart, R.W. and Pfann, E., "Oversampling and sigma-delta strategies for data conversion," Electronics & ΑP <u>58</u> Communication Engineering Journal, IEEE, pp. 37-47 (February 1998). Rudell, J.C. et al., "A 1.9-Ghz Wide-Band IF Double Conversion CMOS Receiver for Cordless Telephone AQ <u>58</u> Applications," IEEE Journal of Solid-State Circuits, IEEE, Vol. 32, No. 12, pp. 2071-2088 (December 1997). English-language Abstract of Japanese Patent Publication No. 09-036664, from http://www1.ipdl.jpo.go.jp, 2 AR <u>58</u> Pages (February 7, 1997 - Date of publication of application).

EXAMINER

DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

. Page 3 of 6 ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 APPLICANTS Sorrells et al. SECOND SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT GROUP FILING DATE 2634 August 4, 2000 **U.S. PATENT DOCUMENTS EXAMINER CLASS FILING DATE** INITIAL **DOCUMENT** DATE NAME SUB-CLASS NUMBER **AA53** 6,327,313 B1 12/2001 Traylor et al. Tsugai **AB53** 5,751,154 05/1998 Wilson AC53 5,793,817 08/1998 Tilley et al. AD53 6,225,848 B1 05/2001 AE53 6,313,685 B1 11/2001 Rabii Runyan et al. AF53 3,614,627 10/1971 02/1976 Morgan AG53 3,940,697 04/1977 Kurata **AH53** 4,016,366 Baker 4,045,740 08/1977 A153 **FOREIGN PATENT DOCUMENTS EXAMINER** TRANSLATION **CLASS** SUB-INITIAL DOCUMENT NUMBER DATE COUNTRY **CLASS** ΑJ ΑK AL ΑM OTHER (Including Author, Title, Date, Pertinent Pages, etc.) Simoni, A. et al., "A Single-Chip Optical Sensor with Analog Memory for Motion Detection," IEEE Journal of

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FORM PTO-1449 SECOND SUPPLEMENTAL

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	AA54	4,115,737	09/19	978	Hong	ju et al.				
	AB54	5,710,992	01/19	998	Sawa	ada <i>et al</i> .				
	AC54	5,790,587	08/19	998	Smitl	n <i>et al.</i>				
	AD54	4,740,675	04/19	988	Bros	nan <i>et al</i> .				
	AE54	5,483,600	01/19	996	Werr	bach				
	AF54	6,011,435	01/20	000	Take	yabu <i>et al.</i>				
	AG54	6,321,073 B1	11/20	001	Luz e	et al.				
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	AA55	6,634,555 B1	10/2	003	Sorre	ells et al.		= 1 11		
	AB55	3,736,513	05/1	973	Wils	on				
	AC55	4,488,119	12/1	984	Mars	hall				
	AD55	4,633,510	12/1	986	Suzi	ıki <i>et al.</i>			<u> </u>	
	AE55	5,369,789	11/1	994	Kosu	ıgi <i>et al</i> .				
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	AA56	5,682,099	10/1	997	Tho	mpson et al.			
	AB56	6,094,084	07/2	000		u-Allam <i>et al</i> .			
	AC56	6,067,329	05/2	000	Kato	et al.			
	AD56	6,516,185 B1	02/2	003	Мас	Nally			
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DATE CONSIDERED

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

SORRELLS et al.

Appl. No.: 09/632,856

Filed: August 4, 2000

For: Wireless Local Area Network (WLAN) Using Universal

Frequency Translation Technology

Including Multi-Phase Embodiments and Circuit

Implementation

Confirmation No.: 2377

Art Unit: 2634

Examiner: Kim, Kevin

Atty. Docket: 1744.0630003

Third Supplemental Information Disclosure Statement

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Third Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Second Supplemental Information Disclosure Statement filed on January 23, 2004 in connection with the above-captioned application.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AL23, AI56, AA57, AB57, AO59, and AF61 were cited in an Office Action in related U.S. Patent Application No. 09/669,634, filed September 26, 2000, entitled "High Frequency Translator and Method of High Frequency Translation," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 6,049,706; 6,421,534; and 6,560,301, which have already been cited in the present application.

Documents AF56, AG56, AAC7, and AD57 are co-owned patents which are directed to related subject matter.

Documents AF56, AG56, AC57, AD57, and AI59 were cited in a Notice of Allowance in related U.S. Patent Application No. 09/838,387, filed April 20, 2001, entitled "Method and System for Down-Converting and Up-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter. Also cited in said Notice of Allowance were U.S. Patent Nos. 5,937,013; 6,061,551; and 6,647,250, which have already been cited in the present application.

Document AH56 was cited in an Office Action in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Down-converter Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AE57-AH57 were cited in an Office Action in related U.S. Patent Application No. 09/567,978, filed May 10, 2000, entitled "Carrier and Clock Recovery Using Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,937,013, which has already been cited in the present application.

Documents AI57 and AA58 were cited in a Notice of Allowance in related U.S. Patent Application No. 10/330,219, filed December 30, 2002, entitled "Methods and Systems for Down-Converting Electromagnetic Signals, and Applications Thereof," directed to related subject matter.

Documents AB58-AI58 and AA59-AD59 were cited in an Office Action in related U.S. Patent Application No. 09/566,188, filed May 5, 2000, entitled "Integrated Frequency Translation and Selectivity with Gain Control Functionality, and Applications Thereof," directed to related subject matter.

Documents AE59-AG59 were cited in an Office Action in related U.S. Patent Application No. 09/569,044, filed May 10, 2000, entitled "Universal Platform Module and Methods and Apparatuses Relating Thereto Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 2,057,613; 2,241,078; 2,283,575; 2,358,152; 2,410,350; 2,451,430; 2,472,798; 4,653,117; and 5,241,561, which have already been cited in the present application.

Document AH59 was cited in an Office Action in related U.S. Patent Application No. 10/289,377, filed November 7, 2002, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter. Also cited

in said Office Action were U.S. Pat. Nos. 5,471,665; 5,793,817; and 5,898,912, which have already been cited in the present application.

Documents AA60 and AB60 were cited in an Office Action in related U.S. Patent Application No. 09/525,185, filed March 14, 2000, entitled "Spread Spectrum Applications of Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459; 5,369,789; and 5,937,013, which have already been cited in the present application.

Documents AC60-AF60 were cited in an Office Action in related U.S. Patent Application No. 09/569,045, filed May 10, 2000, entitled "Methods and Apparatuses Relating to a Universal Platform Module and Enabled by Universal Frequency Translation Technology," directed to related subject matter. Also cited in said Office Action were U.S. Patent Nos. 5,339,459 and 5,557,641, which have already been cited in the present application.

Documents AG60-AI60 were cited in an Office Action in related U.S. Patent Application No. 09/590,955, filed June 9, 2000, entitled "Phase-Shifting Applications of Universal Frequency Translation," directed to related subject matter. Also cited in said Office Action was U.S. Patent No. 5,339,459, which has already been cited in the present application in a previous Information Disclosure Statement.

Documents AA61-AC61 were cited in an Office Action in related U.S. Patent Application No. 09/550,642, filed April 14, 2000, entitled, "Method and System for Down-Converting an Electromagnetic Signal, and Transforms for Same," directed to related subject matter.

Documents AD61 and AE61 were cited in an Office Action in related U.S. Patent Application No. 10/317,165, filed December 12, 2002, entitled, "Method and Apparatus for Reducing DC Offsets in Communication Systems Using Universal Frequency Translation Technology," directed to related subject matter.

The other documents in the PTO-1449 do not fall within the above categories.

It is noted that some of these documents could be classified in more than one of the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- ☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement.
- 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed before the mailing date of a first Office Action on the merits. No statement or fee is required.
- - a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first

cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).

- b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- c. Attached is our PTO-2038 Credit Card Payment Form in the amount of \$180.00 in payment of the fee under 37 C.F.R. § 1.17(p).
- 4. Filing under 37 C.F.R. § 1.97(d) This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. Enclosed find our PTO-2038 Credit Card Payment Form in the amount of \$______ in payment of the fee under 37 C.F.R. § 1.17(p); in addition:
 - a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1).
 - b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).

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5. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38. ⊠ 6. A concise explanation of the relevance of the non-English language documents appears below: Document AL23 (DE 196 48 915 A1) appears to describe a process of frequency conversion. An English-language translation of document AL23 is enclosed as document AO59. 7. Copies of the documents are submitted herewith. ≥ 8. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No 09/525,615, filed March 14, 2000, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d). 9. No copies of U.S. patents and patent application publications cited on the attached Form PTO-1449 are submitted in accordance with 1276 OG 55 because this application was filed after June 30, 2003. 10. It is expected that the examiner will review the prosecution and cited art in the parent application nos. 09/525,615 and 09/526,041 in accordance with MPEP 2001.06(b), and indicate in the next communication from the office that the art

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

present application.

cited in the earlier prosecution history has been reviewed in connection with the

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

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Jeffrey T. Helvey Attorney for Applicants Registration No. 44,757

JA Helver

Date: 8 19 04

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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Applicants: Sorrells et al.

Filed: August 4, 2000

Application No.: 09/632,856

Due Date: NONE

2634 Art Unit:

2377 Confirmation No.:

Examiner: Kim, Kevin

Docket: 1744.0630003

Atty: JTH

For: Wireless Local Area Network (WLAN) Using Universal

Frequency Translation Technology Including Multi-Phase Embodiments and Circuit Implementation

When receipt stamp is placed hereon, the USPTO acknowledges receipt of the following documents:

1. SKGF Cover Letter;

Fee Transmittal (Form PTO/SB/17); 2.

3. Third Supplemental Information Disclosure Statement;

Form PTO-1449 (6 pages); 4.

Return postcard; and 5.

PTO-2038 Credit Card Payment Form for \$180.00 to cover: 6.

\$180.00 for IDS Late Filing Surcharge.



Please Date Stamp and Return to Our Courier

Sterne, Kessler, Goldstein & Fox 1100 New York Avenue, NW Washington, DC 20005

Page 1 of 6 ATTY, DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 **INVENTORS** SORRELLS et al. THIRD SUPPLEMENTAL **ART UNIT** FILING DATE ATION DISCLOSURE STATEMENT August 4, 2000 2634 **U.S. PATENT DOCUMENTS** SUB-CLASS INITIAL DOCUMENT NUMBER DATE NAME **CLASS FILING DATE** AA AB AC ΑĐ ΑE AF56 6,687,493 B1 02/2004 Sorrells et al. 02/2004 AG56 6,694,128 B1 Sorrells et al. **AH56** 6,031,217 02/2000 Aswell et al. AI56 5,955,992 09/1999 Shattil FOREIGN PATENT DOCUMENTS **EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY CLASS SUB-CLASS **TRANSLATION** Yes ΑJ No Yes ΑK No Yes DΕ AL23 06/1998 DE 196 48 915 A1 (Doc. AO59) Yes ΑM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) AN English Translation of German Patent Publication No. DE 196 48 915 A1, 10 pages. ΑO <u>59</u> ΑP AQ AR DATE CONSIDERED **EXAMINER EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

Page 2 of 6 ATTY. DOCKET NO. APPLICATION NO. 09/632,856 1744.0630003 **FORM PTO-1449 INVENTORS** SORRELLS et al. THIRD SUPPLEMENTAL **ART UNIT** FILING DATE INFORMATION DISCLOSURE STATEMENT 2634 August 4, 2000 **U.S. PATENT DOCUMENTS EXAMINER** CLASS SUB-CLASS | FILING DATE DOCUMENT NUMBER DATE NAME INITIAL Naden et al. **AA57** 5.999,561 12/1999 **AB57** 6,686,879 B2 02/2004 Shattil 03/2004 Sorrells et al. AC57 6,704,549 B1 AD57 6,704,558 B1 03/2004 Sorrells et al. Peltier AE57 02/1996 5,490,176 10/1999 Schick et al. AF57 5,970,053 Prasanna 06/2000 AG57 6,078,630 **AH57** 6,600,911 B1 07/2003 Morishige et al. 01/1993 Tränkle et al. A157 5.179,731 **FOREIGN PATENT DOCUMENTS EXAMINER** COUNTRY CLASS SUB-CLASS **TRANSLATION** INITIAL DOCUMENT NUMBER DATE Yes ΑJ No Yes ΑK No Yes AL No Yes AM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) AN AO ΑP AQ AR DATE CONSIDERED **EXAMINER EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

Page 3 of 6 ATTY, DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 **FORM PTO-1449 INVENTORS** SORRELLS et al. THIRD SUPPLEMENTAL **FILING DATE ART UNIT** INFORMATION DISCLOSURE STATEMENT 2634 August 4, 2000 **U.S. PATENT DOCUMENTS** EXAMINER INITIAL **DOCUMENT NUMBER** DATE NAME CLASS SUB-CLASS **FILING DATE** 5,589,793 12/1996 Kassapian AA58 04/1985 AB58 4,510,467 Chang et al. 4,772,853 09/1988 Hart AC58 11/1990 Halim et al. AD58 4,972,436 04/1991 Scott et al. AE58 5,012,245 06/1995 Love et al. AF58 5,422,909 08/1995 Gallagher et al. 5,440,311 AG58 **AH58** 5,926,513 07/1999 Suominen et al. 11/1999 Cabler 5,995,030 A158 **FOREIGN PATENT DOCUMENTS EXAMINER** SUB-CLASS TRANSLATION COUNTRY CLASS DOCUMENT NUMBER INITIAL DATE Yes ΑJ No Yes ΑK No Yes AL No Yes AM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) ΑN AO AP AQ AR DATE CONSIDERED **EXAMINER EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

Page 4 of 6 ATTY, DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 **FORM PTO-1449 INVENTORS** SORRELLS et al. THIRD SUPPLEMENTAL FILING DATE **ART UNIT** INFORMATION DISCLOSURE STATEMENT August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL **DOCUMENT NUMBER** DATE NAME CLASS SUB-CLASS **FILING DATE** 04/2000 **AA59** 6,047,026 Chao et al. AB59 6,049,573 04/2000 Song 6.076.015 06/2000 Hartley et al. AC59 11/2000 AD59 6,144,331 **Jiang** AE59 5,058,107 10/1991 Stone et al. 05/1998 Black et al. AF59 5,757,858 03/2003 6,531,979 B1 Hynes **AG59** 01/2000 **AH59** 6,018,262 Noro et al. Griswold, Jr. et al. AI59 4,761,798 08/1988 **FOREIGN PATENT DOCUMENTS** EXAMINER INITIAL COUNTRY CLASS SUB-CLASS **TRANSLATION** DOCUMENT NUMBER DATE Yes ΑJ No Yes ΑK No Yes AL No Yes AM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) ΑN ΑO ΑP AQ AR **EXAMINER** DATE CONSIDERED **EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

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and not considered. Include copy of this form with next communication to Applicant.

Page 5 of 6 ATTY. DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 **FORM PTO-1449 INVENTORS** SORRELLS et al. THIRD SUPPLEMENTAL **ART UNIT FILING DATE** INFORMATION DISCLOSURE STATEMENT August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** SUB-CLASS FILING DATE INITIAL DOCUMENT NUMBER DATE NAME **CLASS** 5,982,315 11/1999 Bazarjani et al. AA60 6,459,721 B1 10/2002 Mochizuki et al. AB60 11/2000 Abbey AC60 6,151,354 AD60 6,169,733 B1 01/2001 Lee 03/2002 McNicol AE60 6,363,262 B1 02/2004 Lovinggood et al. AF60 6,697,603 B1 AG60 5,282,222 01/1994 Fattouche et al. 09/1999 DeLuca et al. 5,949,827 AH60 01/2000 Nayebi et al. A160 6,014,176 FOREIGN PATENT DOCUMENTS **EXAMINER** CLASS SUB-CLASS TRANSLATION INITIAL DOCUMENT NUMBER DATE COUNTRY Yes ΑJ No Yes ΑK No Yes AL No Yes AM No OTHER (Including Author, Title, Date, Pertinent Pages, etc.) ΑN AO ΑP AQ AR DATE CONSIDERED **EXAMINER EXAMINER**: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance

and not considered. Include copy of this form with next communication to Applicant.

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INFORM	MATION L	DISCLOSURE STATEMI		August 4, 2000	2634		
EXAMINER		1					
INITIAL	 	DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA61	5,678,226	10/1997	Li et al.			
,	AB61	5,760,632	06/1998	Kawakami et al.			
	AC61	6,160,280	12/2000	Bonn et al.			
	AD61	5,481,570	01/1996	Winters			
	AE61	5,745,846	04/1998	Myer et al.			
	AF61	5,345,239	09/1994	Madni et al.			
	AG						
	АН						
	Al						
		F	OREIGN F	PATENT DOCUMENTS		Γ	T
EXAMINER INITIAL		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUB-CLASS	TRANSLATION Yes
	AJ					<u> </u>	No Yes
	AK						No
	AL						Yes No
	АМ						Yes No
		OTHER (Include	ding Autho	or, Title, Date, Pertinent Pa	ages, etc.)		
	AN						
	AO						
	AP						
	AQ						
	AR						
EXAMINER					DATE CC	NSIDERED	
EXAMINER: Initi	al if referer	nce considered, whether or	not citation is	in conformance with MPEP 609.	Draw line throug	h citation if not	in conformance
and not considered 300146_1.DOC	ed. Include	copy of this form with next	communicat	юп ю Арріісапт.			



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sorrells et al.

Appl. No.: 09/632,856

Filed: August 4, 2000

For: Wireless Local Area Network

(WLAN) Using Universal Frequency Translation Technology Including Multi-Phase Embodiments and Circuit

Implementation

Confirmation No.: 2377

Art Unit: 2634

Examiner: Kim, Kevin

Atty. Docket: 1744.0630003

Fourth Supplemental Information Disclosure Statement

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98. The numbering on this Fourth Supplemental Information Disclosure Statement is a continuation of the numbering in Applicants' Third Supplemental Information Disclosure Statement filed on August 19, 2004 in connection with the above-captioned application.

Applicants have listed publication dates on the attached Form PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may

not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AP59 and AE63 were cited in an Office Action, mailed September 21, 2004, in related U.S. Patent Application No. 09/567,977, filed May 10, 2000, entitled "Optical Down-converter Using Universal Frequency Translation," directed to related subject matter.

Document AG61 was cited in an Office Action, mailed August 17, 2004, in related U.S. Patent Application No. 09/476,093, filed January 3, 2000, entitled "Communication System Method With Multi-Mode and Multi-Band Functionality and Embodiments Thereof, Such as the Family Radio Service," directed to related subject matter.

Documents AH61 and AI61 were cited in a Notice of Allowance, mailed August 18, 2004, in related U.S. Patent Application No. 09/525,615, filed March 14, 2000, entitled "Method, System, and Apparatus for Balanced Frequency Up-conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter.

Documents AA62-AF62, mailed August 25, 2004, were cited in an Office Action in related U.S. Patent Application No. 10/290,323, filed November 8, 2002, entitled "Method and Apparatus for DC Offset Removal in a Radio Frequency Communication Channel," directed to related subject matter.

Documents AG62-AI62 were cited in an Office Action, mailed September 8, 2004, in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

Documents AA63-AD63 were cited in an Office Action, mailed September 8, 2004, in related U.S. Patent Application No. 09/986,764, filed November 9, 2001, entitled "Method and Apparatus for Reducing DC Offsets in a Communication System," directed to related subject matter.

Documents AF63-AI63 were cited in a Notice of Allowance, mailed September 27, 2004, in related U.S. Patent Application No. 09/987,193, filed November 13, 2001, entitled "Method and Apparatus for a Parallel Correlator and Applications Thereof," directed to related subject matter.

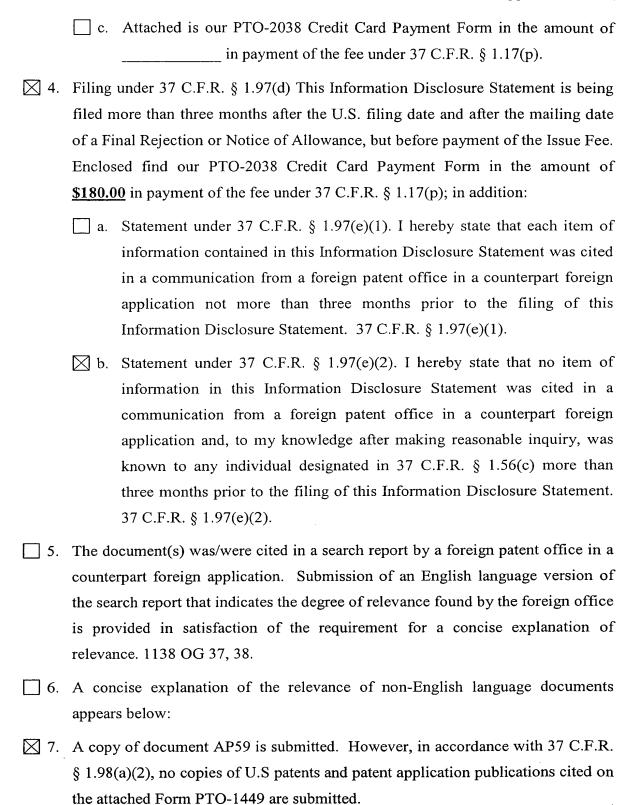
Document AA64 was cited in an Office Action, mailed September 29, 2004, in related U.S. Patent Application No. 09/632,857, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Technology and Applications Including Techniques of Universal Frequency Translation," directed to related subject matter.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

☐ 1. Statement under 37 C.F.R. 1.704(d). Each item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart application and this communication was not

received by any individual designated in 37 C.F.R. § 1.56(c) more than thirty days prior to the filing of this information disclosure statement. 2. Filing under 37 C.F.R. § 1.97(b). This Information Disclosure Statement is being filed within three months of the date of filing of a national application other than a continued prosecution application (CPA), OR within three months of the date of entry of the national stage as set forth in 37 C.F.R. § 1.491 in an international application, OR before the mailing date of a first Office Action on the merits OR before the mailing of a first Office Action after the filing of a request for continued examination under 37 C.F.R. § 1.114. No statement or fee is required. 3. Filing under 37 C.F.R. § 1.97(c). This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection, or Notice of Allowance, or an action that otherwise closes prosecution in the application. a. Statement under 37 C.F.R. § 1.97(e)(1). I hereby state that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(1). b. Statement under 37 C.F.R. § 1.97(e)(2). I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).



	••
8.	Copies of the documents were cited by or submitted to the Office in an IDS that
	complies with 37 C.F.R. § 1.98(a)-(c) in Application No, filed
	, which is relied upon for an earlier filing date under 35 U.S.C.
	§ 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).
9.	It is expected that the examiner will review the prosecution and cited art in the
	parent application no, filed, and indicate in the next
	communication from the office that the art cited in the earlier prosecution
	histories have been reviewed in connection with the present application.
	It is respectfully requested that the Examiner initial and return a copy of the
enclose	d Form PTO-1449, and indicate in the official file wrapper of this patent
applicat	tion that the documents have been considered.
,	The U.S. Patent and Trademark Office is hereby authorized to charge any fee
deficien	acy, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

STERNE, KESSLER, GOLDSTEIN & FOX P.L.L.C.

Jeffrey T. Helvey Attorney for Applicants Registration No. 44,757

Date: 11/12/04

1100 New York Avenue, N.W. Washington, D.C. 20005-3934 (202) 371-2600

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Robert Greene Sterne Edward J. Kessler Jorge A. Goldstein David K.S. Cornwell Robert W. Esmond Tracy-Gene G. Durkin Michael B. Ray Robert E. Sokohl Eric K. Steffe Michael Q. Lee Steven R. Ludwig John M. Covert Linda E. Alcorn Robert C. Millonig Lawrence B. Bugaisky Donald J. Featherstone Michael V. Messinner Judith U. Kim Timotry J. Shea, Jr. Patrick E. Garrett Jeffrey T. Helvey Heldi L. Kraus Albert L. Frero* Donald R. Banowit Peter A. Jackman Teresa U. Medler Jeffrey S. Weaver Kendrick P. Patterson Vincent L. Capuano Eldora Eliison Floyd Thomas C. Fiala Brian J. Del Buono Virgil Lee Beaston Theodore A. Wood Eirzabeth J. Haanes Joseph S. Ostroff Frank R. Cottingham Christine M. Lhulier Rae Lynn P. Guest George S. Bardmesser Jason D. Eisenberg Michael D. Specht Andrea J. Kamage Tracy L. Muller* LuAnne M. DeSantis Ann E. Summerfield Aric W. Ledford* Helene C. Carlson Timothy A. Doyle* Gaby L. Longsworth Lori A. Gordon* Nicole D. Dretar* Ted J. Ebersole Jyoti C. Iyer* Laura A. Vogel Registered Patent A Karen R. Markowicz

Registered Patent Agents Karen R. Markowicz
Nancy J. Leith
Matthew J. Dowd
Aaron L. Schwartz
Katrina Yujian Pei Quach
Bryan L. Skelton
Robert A. Schwartzman
Teresa A. Colella
Jeffrey S. Lundgren
Victoria S. Rutherford
Michelle K. Holoubek
Robert H. DeSelms
Simon J. Elliott

Julie A. Heider Mita Mukherjee Scott M. Woodhouse Michael G. Penn Christopher J. Walsh

<u>Of Counsel</u> Kenneth C. Bass III Evan R. Smith Marvin C. Guthrie

*Admitted only in Maryland *Admitted only in Virginia •Practice Limited to Federal Agencies

(202) 772-8675
INTERNET ADDRESS:
HELVEY@SKGF.COM

November 12, 2004

FILE COPY

Art Unit 2634

WRITER'S DIRECT NUMBER:

Commissioner for Patents PO Box 1450 Alexandria, VA 22313-1450

Re:

U.S. Utility Patent Application

Application No. 09/632,856; Filed: August 4, 2000

For:

Wireless Local Area Network (WLAN) Using Universal Frequency

Translation Technology Including Multi-Phase Embodiments and

Circuit Implementation

Inventors:

Sorrells et al.

Our Ref:

1744.0630003

Sir:

Transmitted herewith for appropriate action are the following documents:

- 1. Fee Transmittal (Form PTO/SB/17);
- 2. Fourth Supplemental Information Disclosure Statement;
- 3. Form PTO-1449 (4 pages);
- 4. Copy of (1) cited document (Document No. AP59);
- 5. Return postcard; and
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It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox P.L.L.C.: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skgf.com

Commissioner for Patents November 12, 2004 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

Sterne, Kessler, Goldstein & Fox P.L.L.C.

Jeffrey T. Helvey

Attorney for Applicants Registration No. 44,757

JTH/agj 333749_1.DOC DEC 1.5 2004 ST.

Applicants: Sorrells et al.

Application No.: 09/632,856

Filed: August 4, 2000

For: Wireless Local Area Network (WLAN)

Using Universal Frequency Translation Technology Including Multi-Phase

Embodiments and Circuit Implementation

When receipt stamp is placed hereon, the USPTO acknowledges receipt of the following documents:

1. SKGF Cover Letter;

2. Fee Transmittal (Form PTO/SB/17);

3. Fourth Supplemental Information Disclosure Statement;

4. Form PTO-1449 (4 pages);

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Due Date: NONE

2634

JTH

Kim, Kevin

1744.0630003

Art Unit:

Confirmation No.: 2377

Examiner:

Docket:

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Please Date Stamp and Return to Our Courier

Sterne, Kessler, Goldstein & Fox 1100 New York Avenue, NW Washington, DC 20005

Page 1 of 4 ATTY, DOCKET NO. APPLICATION NO. 1744.0630003 09/632,856 FORM PTO-1449 **INVENTORS** Sorrells et al. **FOURTH SUPPLEMENTAL FILING DATE ART UNIT** INFORMATION DISCLOSURE STATEMENT August 4, 2000 2634 **U.S. PATENT DOCUMENTS EXAMINER** INITIAL DOCUMENT NUMBER DATE NAME CLASS SUB-CLASS FILING DATE AA AB AC AD ΑE ΑF AG61 4,132,952 Hongu et al. 01/1979 AH61 5,260,973 11/1993 Watanabe AI61 6,307,894 B2 10/2001 Eidson et al. FOREIGN PATENT DOCUMENTS **EXAMINER** INITIAL DOCUMENT NUMBER DATE COUNTRY CLASS SUB-CLASS TRANSLATION Yes ΑJ No Yes ΑK No Yes ALNo Yes AM OTHER (Including Author, Title, Date, Pertinent Pages, etc.) ΑN AO Deboo, Gordon J., Integrated Circuits and Semiconductor Devices, 2nd Edition, McGraw-Hill, ΑP <u>59</u> Inc., pp. 41-45 (1977).

EXAMINER DATE CONSIDERED

EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to Applicant.

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				INVENTORS Sorrells et al.			
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EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB-CLASS	FILING DATE
	AA62	4,441,080	04/1984	Saari			
	AB62	4,873,492	10/1989	Myer			
	AC62	5,697,074	12/1997	Makikallio et al.			
	AD62	5,784,689	07/1998	Kobayashi			
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	AH62	6,366,622 B1	04/2002	Brown et al.			
	AI62	6,600,795 B1	07/2003	Ohta <i>et al</i> .			
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		ORM PTO-1449		INVENTORS Sorrells et al.			
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	AA63	4,250,458	02/1981	Richmond et al.			
	AB63	5,760,629	06/1998	Urabe et al.			
	AC63	6,084,465	07/2000	Dasgupta			
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	AI63	6,005,903	12/1999	Mendelovicz			
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	AA64	5,834,979	11/1998	Yatsuka			
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